









INDIAN NOTES AND MONOGRAPHS

EDITED BY F. W. HODGE



A SERIES OF PUBLICA-
TIONS RELATING TO THE
AMERICAN ABORIGINES

GUIDE TO THE MUSEUM

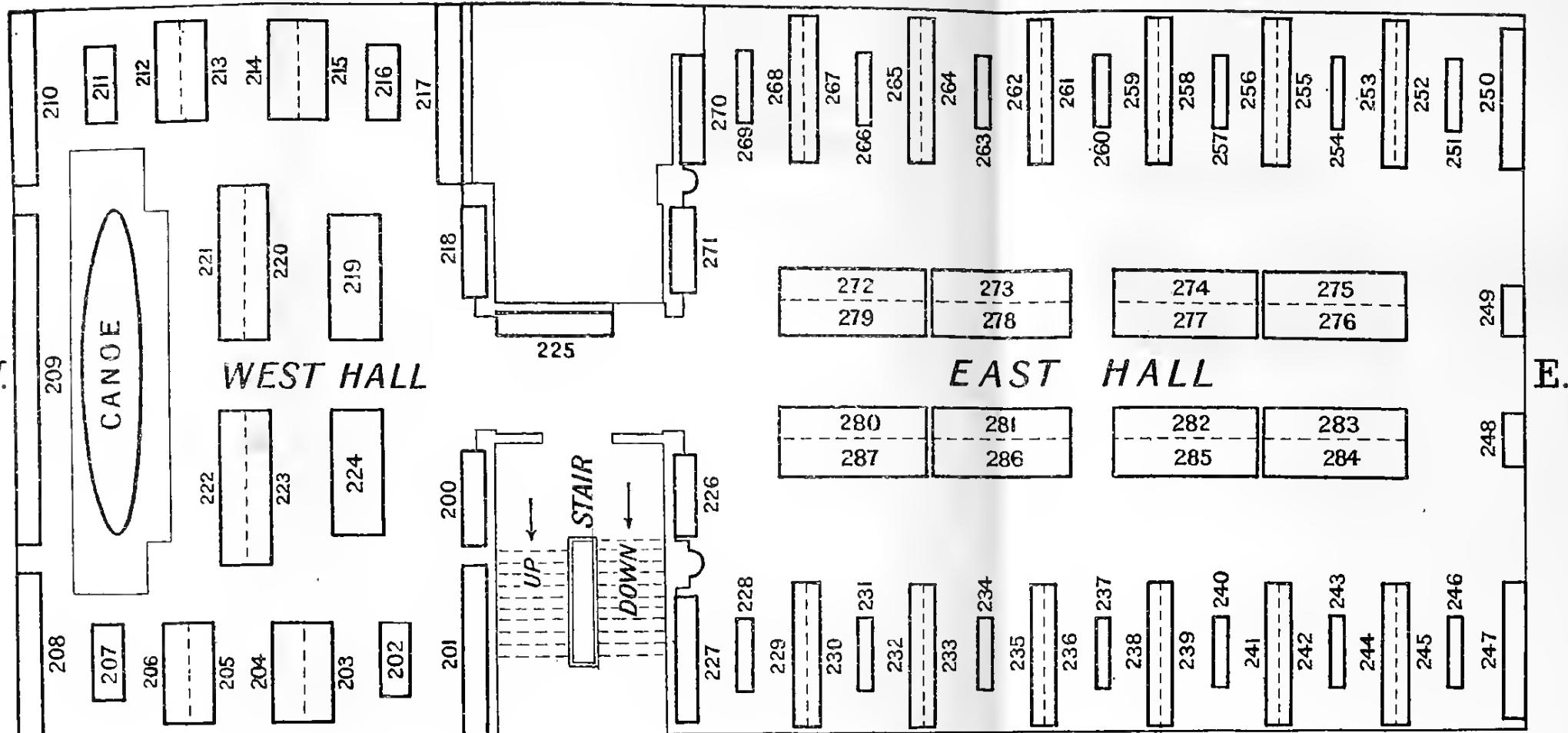
SECOND FLOOR

NEW YORK
MUSEUM OF THE AMERICAN INDIAN
HEYE FOUNDATION
1922

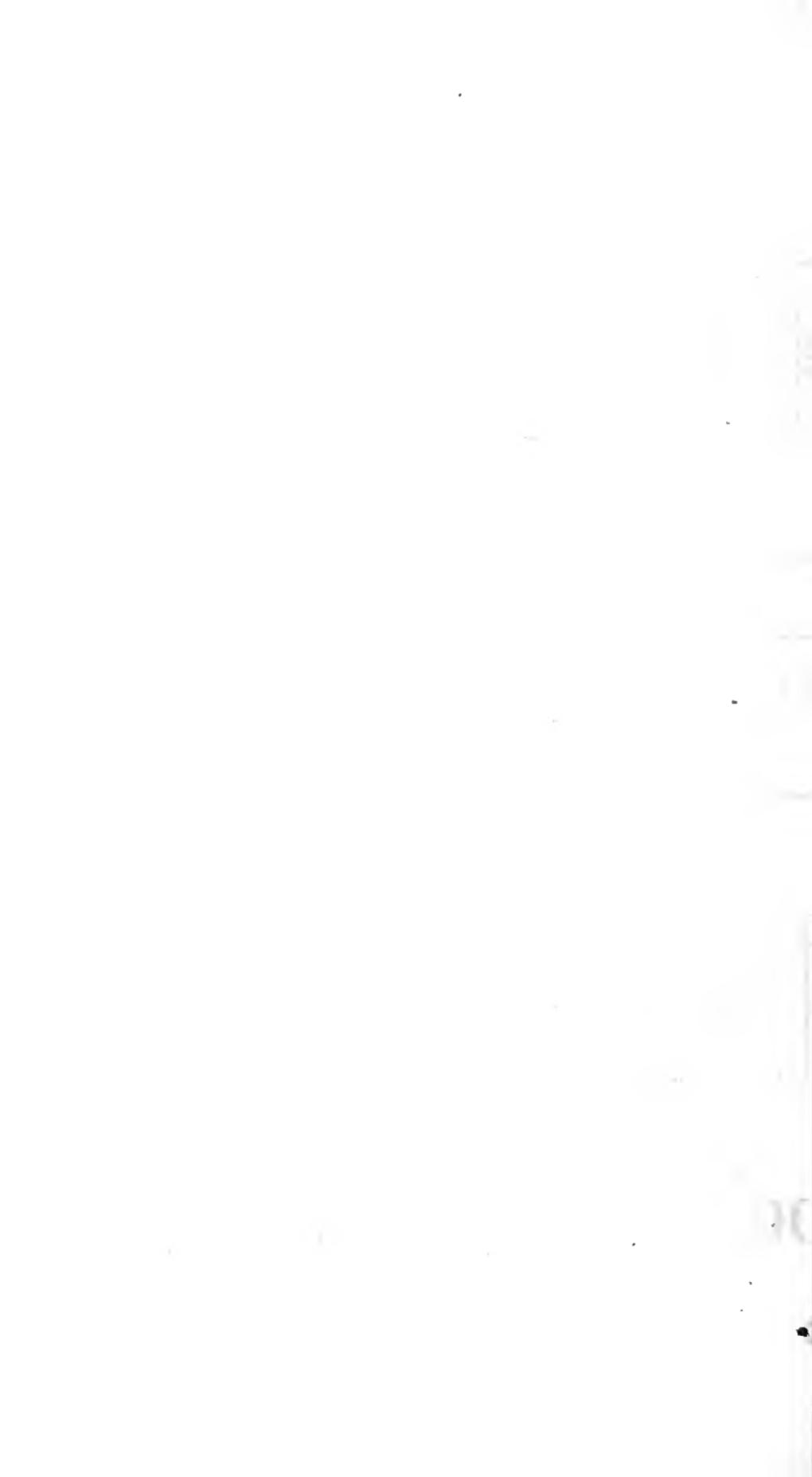


THIS series of INDIAN NOTES AND MONOGRAPHS is devoted primarily to the publication of the result of studies by members of the staff of the Museum of the American Indian, Heye Foundation, and is uniform with HISPANIC NOTES AND MONOGRAPHS, published by the Hispanic Society of America, with which organization this Museum is in cordial coöperation.

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PLAN OF SECOND FLOOR



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SECOND FLOOR

WEST HALL—ETHNOLOGY OF
CALIFORNIA, THE NORTH-
WEST, AND THE DESERT
SOUTHWEST

EAST HALL—ARCHEOLOGY OF
NORTHERN AMERICA

VISITORS are advised to examine first the ethnological collections in the West Hall, then to proceed to the archeological collections in the East Hall.

It is not always possible to identify the tribes to which archeological objects pertain, for in many instances specimens have been gathered from sites that were abandoned in prehistoric times, other Indians moving in at a later period. In some cases, however, the makers of these ancient artifacts have become known

AND MONOGRAPHS

through archeological and ethnological investigation, hence more or less knowledge of the ancient customs of the ancestors of tribes still existent has been gained. A better understanding of the culture of the Indians of earlier times may be had by comparing the ancient objects with those of the later period displayed on the First Floor and in the West Hall of the Second Floor.

The ethnological collection from the Apache tribes of the Southwest (Case 225), in the entry between the East Hall and the West Hall, and in the West Hall itself (Case 218 B), is a continuation of that exhibited in the cases devoted to the Desert Nomads on the First Floor.

WEST HALL

TRIBES OF CALIFORNIA

(Cases 200, 201, 202, 203, 219 F G, 223)



HE Indian population of California consists of numerous tribes belonging to a remarkable number of linguistic stocks; indeed, it is doubtful if so many languages were spoken in any equal area of the globe. The territory of the California tribes may be divided into three main geographical areas—Northern, Central, and Southern. Owing to environment and to climatic conditions, marked differences exist among the Indians of these groups in their mode of living, in the materials used for dress and ornament, and in their artifacts and ceremonies. The difference is especially noticeable between the objects collected from the more or less arid south and those

Distribution and Culture

AND MONOGRAPHS

from the northern part of the state, characterized by heavy rainfall and dense forest growth. The people were often somewhat unsettled in habitation, but always within



Tribes of California, with Klamath and Modoc.

limited areas, and therefore could not be classed as nomadic. The Indian population of California has become greatly reduced since the advent of the whites.

They were not warlike, and unlike some of the Desert and Plains tribes, offered little or no resistance to the encroachment of white people, but early took to working for the newcomers in the fields and forests, and in various other ways. The Indians of the coast area south of San Francisco yielded to Spanish missionary influence in the eighteenth century, but many of the interior tribes did not become known until after the invasion and settlement of their country subsequent to the discovery of gold in 1849.

Houses in the southern arid area were simple structures of grass, tule, brush, or bark, sometimes covered with earth. In the northern and central parts of the state, however, a more substantial shelter was built of planks, with a floor partly or wholly lower than the outer level. These houses were either square or circular, according to the dictates of custom in a particular locality or tribe. The house planks were split from cedar logs by means of wedges, often made of elk-antler. Some buildings were entered through an opening in the

Houses
201 B
202

House
furnishings
200
201
203
223
(top)

roof, others by a doorway at the ground level.

The furnishings of these houses were very simple: a depression in the center of the floor, sometimes surrounded by stones, answered for a fireplace; a raised platform of earth or of willows around the sides of the dwelling, covered with pine-needles and animal skins, was the lounging place and sleeping quarters; a pole along the edge of the platform served as a pillow for all, or an individual head-rest was made from a short section of a squared log slightly hollowed in the middle. For bed-coverings mats of tule and other reeds twined together with cords were used, and robes woven of strips of rabbit or wildcat fur, or of bird-skins sewn together, were worn. However, the earth-covered lodges were usually so warm that little covering was necessary. Food, domestic appliances, and property of various kinds were stored in baskets around the walls, and even under the platforms, if the construction would permit.

Food

The food supply was abundant, and as

may be expected, varied greatly according to latitude and altitude. Berries, fruits, roots, and seeds of many kinds were consumed, in addition to the game and fish found in the different areas. In the northern section many palatable dishes were prepared of acorns after the acrid substance had been removed by a perfected system of leaching. Bows and arrows, and various forms of traps, spears, and nets were employed for securing game and fish.

The Indians of the northern area were not potters, but they fashioned baskets in which they were able to boil food, the required temperature for cooking being attained by dropping red-hot stones in with the food. Baskets, paddles, spoons, ladles, and wooden and stone dishes in great variety, which were used in preparing and serving food, are well represented in the collections. Many of the specimens exhibited attest the excellence of the northern Californians as basket-makers; indeed in this respect they were not exceeded by any other American Indians. Some of the tribes of the southern area

Utensils
200-203
223

Pottery
219 F G
223
264
265

223 B

Clothing
201
203 A B
223 A C

are manufacturers of pottery, but compared with that produced by the Pueblos of Arizona and New Mexico it is rather crude, with little attempt at decoration. Aside from the use of pottery for the preparation and storage of food, many of the jars are employed in connection with cremation of the dead. A number of these vessels, with some of their contents, are shown in the East Hall. In this connection special attention is called to the human effigies made by the Diegueño for use in a cremation ceremony. The Museum has published pamphlets descriptive of the pottery and of the mortuary rites of southern California.

In former times, no doubt, clothing was a matter of little consideration in the salubrious climate of southern California; but such native garments as were worn have long been superseded by those of civilization, excepting for use in ceremonies. Aprons and skirts were used generally; those in the south are made of shredded bark or of nettle fiber, which for ceremonial occasions are decorated with feathers.

They do not exhibit the artistic workmanship so noticeable in the aprons produced by the Indians of northern California in finely braided grasses with seed and shell decorations, and in the leather skirts heavily fringed and ornamented with shells, seeds, and other objects. In footgear, however, there is a wider difference. The northern people wore leather moccasins in several styles, while in the south, sandals made of agave and other fibers predominated. Bowl-shape basket hats occur both in the north and in the south; the former, however, are more ornate and of superior weave. Necklaces and ear-ornaments of seeds and shells were worn on all occasions, some being specially prepared for ceremonies; and elaborate headdresses of deer-skin and feathers were made for use in certain rites. Attention is called to those made from brilliantly colored woodpecker scalps.

Trumpet-shape tubular pipes of wood and of stone are characteristic of the northern region.

Ornaments
201 A C
203 A

Pipes
200-203

Media of
exchange
200-203

Articles representing money and recognized media of exchange are displayed. These consist of strings of dentalium shells embellished with incised designs or with strips of snakeskin, with their containers or purses made from sections of elk-antler; large obsidian blades; woodpecker scalps; and beads made of magnesite, the larger ones representing a value of as much as twenty dollars.

Games
200 B
201 A B
202
223 A C

An interesting series of gambling devices of varying forms are displayed, in playing which quantities of personal belongings change hands in the form of wagers.

Boats
201
(top)

Means of transportation on water are shown by a balsa or boat made of rushes bound together with thongs, and a dugout canoe which is displayed beneath the canoe rack in the East Hall of the First Floor—both used by tribes of northern California.

PIMAN-YUMAN-SERI GROUP

THE more important tribes of this group are the Yuma, Mohave, Walapai, Havasupai, Maricopa, and Cocopa, of the Yuman

INDIAN NOTES

linguistic family, the Pima, Papago, Opata, and Yaqui, of the Piman family, and the Seri who are regarded as a distinct linguistic stock. The Yuman representatives occupy



Piman-Yuman-Seri Group.

the territory drained by the lower Colorado river and its tributaries in Arizona and California, with the Havasupai in Cataract Cañon of the Grand Cañon of Arizona,

and the Cocopa in Lower California. The Piman tribes inhabit the drainage of the Gila and Salt rivers in southern Arizona and extending into Sonora, with the Opata chiefly on the Rio Sonora, and the Yaqui on the stream that bears their name in northwestern Mexico. The Seri, sole representatives of a linguistic stock, live on Tiburon island in the Gulf of California and on the adjacent Sonora coast. There are differences, of course, in the general and material culture of these tribes, but for practical purposes they are here grouped. All were agricultural to a greater or lesser extent, but they derived much of their food supply from the wild vegetal products of their respective ranges, which varied considerably with latitude, altitude, and proximity to streams, and hunted such game as the region afforded. In the loftier territory of the Walapai and Havasupai, deer were abundant, consequently a considerable trade in deerskins was conducted with other tribes, especially with the Hopi.

PIMA

(Cases 220 A, 224 E F, Top of case 223 C,
and drawers)

THE typical house of the Pima is a dome-shape structure built over a shallow circular excavation; a heavy framework supports branches of mesquite brush thatched with arrow-weed and covered with mud plaster; the door opening is at the east. A shelter, or ramada, without sides is built nearby, in which cooking and other domestic work are done, especially in summer.

Houses

The Pima subsist mainly on vegetal foods. In addition to grain, raised in great quantities, they gather many wild fruits, seeds, and roots, as well as the beans of the mesquite and tornillo. Rabbits, birds, and fish are eaten, and in former times deer.

Food

The primitive dress of the women consisted of a kilt woven of native cotton, wrapped around the hips and fastened at the waist with a narrow belt, and extending to the knees. The body above the waist was usually bare, but sometimes a covering of similar cotton cloth was worn. The men

Dress

wore little more than a breechcloth, except in chilly weather a robe might be used. Sandals of rawhide were sometimes employed in traveling, especially for protecting the feet from cactus-spines. Facial tattooing and face and body painting were common.

Baskets

The Pima are justly noted for the quality of their baskets, mostly bowl-shape, which are excellently made and are embellished usually with frets or other geometrical patterns. The designs that ornament the baskets are interwoven of the black fiber of the pods of the unicorn plant, or devil's claw; sometimes a red pigment is applied in addition. The large globular coiled basket displayed is an example of the Pima storage receptacles, especially for grain, but often baskets of enormous size are built in place on the roofs of the summer shelters.

Burden-carrier

A typical device of the Pima and the Papago is a large burden-carrier, or *kiho*, used by the women for transporting loads of all kinds. The body or pouch is netted of soft fiber, with ornamental patterns in openwork, sometimes colored, and is sup-

ported by a wooden hoop two to three feet in diameter, and four crossing poles. When carried a head-band is employed.

Earthenware receptacles of varying forms and sizes are made, some of them with well-painted designs.

Among many objects procured from the Pima is a record or calendar stick, on which are noted, by carving and coloring, important events that have occurred between the years 1833 and 1920, a few of which are described on the accompanying labels. Nearby are displayed a number of gaming devices and ceremonial objects, among the last being some crude masks made from gourds, with related paraphernalia.

Pottery

Calendar
stickGames
Ceremonial
objects

PAPAGO

(Cases 219 C D, 220 B, 224 G and drawer)

THE primitive dwelling occupied by the Papago, close relations of the Pima, was formed of three forked posts set in a line and supporting a ridge-pole, with smaller posts set in a circle for the walls, poles spanning the space between ridge and walls.

Houses

AND MONOGRAPHS

This frame was thatched with grass or arrow-weed and covered with mud. The more modern house is a rectangular structure of wattle-and-daub.

Food The principal food consisted of mesquite-beans, tornillos, grass-seeds, and cactus and other wild fruits, together with small game and sometimes deer. Corn and especially beans were cultivated in small patches wherever the desert soil and the water supply permitted.

Dress The women's clothing was either a long dress of deerskin or a close-fitting sleeveless deerskin waist and a skirt of native cotton reaching below the knees. Old women usually wore only the skirt in hot weather, but this custom was denied young women. The costume of the men was a breechcloth, with a deerskin robe for cool weather; sometimes the younger men wore a cotton poncho. Sandals were made of a double thickness of rawhide, usually of the deer.

**Basketry
Pottery** Excepting certain details of weaving, the basketry of the Papago was similar to that of the Pima, and the pottery of the two tribes was practically identical.

YAQUI

(Cases 217 C, 218 A and drawer)

THIS important division of the Piman family, so well known by reason of its long-continued hostility toward the Mexican government, lives in Sonora, especially on the river that bears its name. The Yaqui reside in communities and subsist largely by cultivating the soil of their fertile valleys, for although more or less insurgent by nature, they have adopted many of the ways of civilization, yet a few native religious rites are still observed. In more primitive times their houses were rectangular structures of poles and reeds, with a flat or a slightly sloping roof of grass and mud.

The Yaqui manufacture baskets of excellent quality in varying weaves and of several materials. Especially noteworthy are their double-weave baskets, one basket being woven within another; the weave is continuous from the starting point at the bottom of the innermost layer to the base of the outside, where the work terminates.

Habitat

Character

Houses

Basketry

Weaving

Specimens of this variety of twilled basketry compare favorably even with some of the well-known Panama hats. This feature of basket-making has been developed also among some of the Southeastern Woodland people, as will be seen by specimens illustrating the culture of that group exhibited on the First Floor. The Yaqui also make a crude pottery, and produce good examples of woven fabrics in wool and cotton.

Pottery

Some of the ceremonial objects still employed in religious performances of these people are carved and painted wooden masks, together with rattles and flutes. A rattle of exceptional interest consists of a number of dried cocoons laced on a long string, the larvæ having been replaced with small pebbles. Such a rattle is sometimes wrapped around the dancer's leg, producing a highly resonant rhythmic sound.

Ceremonial
objects

YUMA

(Cases 217 B, 219 E)

Houses

ORIGINALLY the Yuma house was dome-shape; it consisted of a framework of poles

INDIAN NOTES

which supported a covering of brush or grass, and the whole daubed with mud. This has been superseded by a rectangular structure composed of a flat roof of brush and mud supported by stout posts and cross-beams. The walls were formed of two horizontal layers of poles, one within and one without, secured to the upright roof-supports, the space between the inner and outer walls of poles being filled with mud.

The climate of the Yuma country is such that little attention to clothing was necessary, so far as warmth was concerned; indeed, when first seen by the Spaniards, before the middle of the sixteenth century, the Yuma and perhaps neighboring related tribes carried firebrands to warm themselves in chilly weather. The men wore the breechcloth, sometimes made of tanned skin, although there is evidence also that they usually went naked. The clothing of the women was a short double apron made of strips of bark, with rabbit-skin or rat-skin robes, such as were common to all the tribes of the group during cool weather. Sandals were made of yucca-

Dress

Food

fiber, and latterly of horse-hide, but foot-covering was little used.

Balsas

The food of the Yuma consisted of native vegetal products to a considerable extent—mesquite-beans, tornillos (screw-beans), piñon nuts, and various other nuts and seeds; but small patches of maize, beans, pumpkins, and squash were cultivated without irrigation, while deer and rabbits, fish, and aquatic birds so common to the lower Colorado river, added to the food supply.

Pottery

The only means of crossing the Colorado river, on which they lived, was by the use of a reed balsa, like that hitherto described.

The pottery displayed compares favorably with that of the Mohave, and in some cases the designs are almost identical. A number of small human effigy figures of earthenware are of interest as showing the characteristic facial painting. The Yuma were noted for painting their faces and bodies, "some with black, others with red, and many with all colors," wrote an early Franciscan missionary.

MOHAVE

(Case 217 A)

THE primitive house of the Mohave, about six feet high inside, was built over a circular excavation three feet in depth, the roof-beams, supported by four heavy posts, serving also to support the upper ends of poles which formed the sloping sides. This framework was covered with a thatch of brush, plastered with mud. The walls of the present Mohave dwellings are vertical; the thatch is held in place with horizontal battens, and often is not plastered.

Houses

Their dress was made of a cloth woven from shredded willow-bark—a breechcloth for the men, a skirt reaching from waist to knees for the women—and sandals of badger-skin. Rabbit-skin or rat-skin robes, worn in winter, as among all the tribes of the region, served also as bedding.

Dress

Their food was vegetal in the main, the wild growths affording most of the supply—mesquite-beans, screw-beans, grass-seeds, and various roots—together with a limited quantity of corn, squash, and beans, which

Food

AND MONOGRAPHS

were cultivated, and the flesh of such small mammals, birds, and fish as their territory offered.

Pottery
Basketry

Pottery and basketry with decorative designs have been collected among the Mohave, the pottery especially, in form and ornamentation, evidencing skill and industry.

COCOPA

(Cases 217 B, 224 E)

Habitat

THIS Yuman tribe has occupied the valley of the Colorado, above its mouth, since first known, their range extending westward to the mountains of Lower California. In practically all respects they closely resemble the Yuma, with which related tribe the Cocopa were long at enmity—indeed, nearly all the neighboring Indians were at one time hostile toward them. Their houses were brush shelters for summer, and a wattled structure coated with mud inside and outside for winter occupancy. The Cocopa cultivated corn, melons, pumpkins, and beans to some extent, and gathered grass and other seeds, mesquite-beans, and

Houses

Food

INDIAN NOTES

various roots, to which vegetal food was added what small game their territory afforded.

In dress the Cocopa resembled the Yuma and the Mohave—a breechcloth for the men and an apron for the women, with the usual robe woven of strips of rabbit-skin. They used a very powerful though crudely-made bow, and arrows of cane with hard-wood points. The examples of Cocopa pottery that have been gathered compare favorably with that made by other tribes of this group.

Dress

Bows

Pottery

Habitat

HAVASUPAI

(Case 220 C and drawer)

THESE "People of the Blue Water" live in the depths of Cataract Cañon, a branch of the Grand Cañon of the Colorado in Arizona. The rim of their cañon being nearly 3000 feet above the narrow bed which the Havasupai occupy and cultivate, the range of temperature and humidity is marked, consequently their crops (corn, melons, beans, sunflowers, peaches, figs, and

AND MONOGRAPHS

Hunting

a variety of garden truck) are raised with little difficulty, aside from damage caused by periodic floods, while the indigenous vegetation is prolific. In winter the Havasupai left their cañon and hunted deer, and sometimes mountain-sheep and bear beyond the country round about. By this means sufficient meat was secured for winter use, and, by cutting into thin strips and drying, for summer consumption as well. The skins were tanned for use as clothing, and formerly a considerable surplus was traded to surrounding tribes, especially the Hopi. Their dwellings were conical structures covered with brush or tules, sometimes with earth, but these have been largely superseded by modern frame houses.

Houses

The aboriginal dress (now almost entirely replaced by clothing made of trade goods) consisted, for the men, of a breechcloth and a poncho-like shirt of deerskin, with loose-fitting, fringed sleeves, and belted at the waist; leggings reaching to the hips and fringed at the side seams, and high-topped moccasins. The women's dress was made of two deerskins sewed together, with open-

ings for head and arms; it reached a little below the knees, was belted at the waist, and was embellished with fringe. When needed for warmth, the robe of woven strips of rabbit-skin was worn, and it served also as bedding.

The art of basketry is well developed among the Havasupai, much of their cooking, indeed, being done formerly by the use of baskets made watertight with a coating of clay, while serviceable water-bottles were made by covering the receptacles with piñon gum. Like their tanned deerskins, the baskets of these Indians were greatly sought by neighboring tribes. Burden-baskets, carried with the aid of a forehead band, are still in common use by the women for gathering fruits and other food, and for bearing loads of all kinds.

Basketry

SERI

(Case 217 B, over door of West Hall, drawers,
and Third Floor Stairway)

THE dwellings of the Seri of Tiburon island in the Gulf of California are little

Houses

AND MONOGRAPHS

more than rude bowers made of brush, formerly covered with large turtlesHELLS, and occasionally built in groups. Such shelters afford protection from sun and wind, but not from cold and rain, which however, are uncommon in the Seri country.

Food

Their subsistence is derived chiefly from turtles, fish, waterfowl, and other sea products, as well as land game, including deer, and such native vegetal offerings as cactus fruits, mesquite-beans, etc.

Dress

Clothing consisted mainly of a short skirt or kilt extending from waist to knees, sometimes a loose-sleeved shirt, both woven from vegetal fibers, and in addition robes of pelican-skins with the feathers intact, sewn together with sinew thread (shown on the Third Floor stairway). Belts and necklaces were made of twisted strands of human hair, of dressed deerskin, and of snakeskin. For weaving fabrics for clothing a loom of simple form was used, with spreaders and battens, and a spindle for making fiber strands.

Weaving

Basketry Awls of bone and wood were employed in the manufacture of basketry, which was

of coiled weave, neatly made in bowl form, sometimes crudely decorated, and ranging in diameter from 8 to 18 inches.

Pottery vessels were made to some extent, primarily as water receptacles, and broken vessels were sometimes used as kettles and cups, although the food of the Seri was more often eaten raw than cooked. Mollusc-shells of convenient sizes served also as cups.

A crude form of cradle was used, made from a bowed cane to which cross-sticks were lashed, the bedding consisting of a pelican-skin robe or of pelican-down.

Bows and arrows were used in hunting and in warfare, the arrows being tipped with stone and in later times with iron points. Turtles were taken with harpoons pointed with bone, charred wood, or iron, and having cane shafts. An exceptional implement of this kind, 20 feet in length, has a shaft made of several pieces of wood lashed together.

Crude stone hammers were employed for cracking bones for the marrow, and for

Receptacles

Cradle

Weapons
HuntingStone
tools

grinding seeds and other food, and chipped stone blades for cutting.

Balsas

For communication with the mainland the Seri devised a remarkably good balsa, made of bundles of canes lashed together, and tapering at the ends, which was not only buoyant and seaworthy to the extent of its requirements, but was graceful in shape. The balsa exhibited (the last in the tribe in 1922), somewhat less than average size, measures 25 feet in length and is $2\frac{1}{2}$ feet wide at the beam.

INDIANS OF THE INTERIOR PLATEAU

(Cases 214 B, 215, 216)

Culture

A CONSIDERABLE area in Oregon, Washington, Idaho, and British Columbia is inhabited by interesting groups of people, with a culture quite different from the cultures hitherto described. These tribes led a more or less roving life, and in recent generations have depended extensively on the horse. They show many similarities to the Indians of the Plains, both in physi-

INDIAN NOTES

cal type and in mode of living; indeed many objects manufactured by Plains tribes have found their way into this plateau region. The collections displayed illus-



1, Tahltan. 2, Thompson River and Fraser River.
3, Columbia River and Oregon Coast Tribes.

trate more or less of the life of two groups particularly—the Indians of Fraser river and its tributaries, who speak Salish dialects, and those about Yakima, Washington,

and Warm Springs, Oregon, who are Shahaptian.

Saddles

Probably the most characteristic feature regarding life on this plateau is that the people combine a hunting and horseback life with an extensive digging of roots. Their basketry is of a substantial coiled technique which stands the stress of transportation on horseback and heavy usage. These utensils are often ornamented with striking patterns effected by a kind of embroidery known as imbrication. The influence of the Plains is shown in their clothing, in the use of rawhide bags for transporting their effects, in the employment of painted quivers, and in the extensive use of fringe for ornamentation. Their decorative art, however, especially their painted designs, shows certain differences from that of the Plains. The collections give a fair impression of the culture of the Interior Plateau tribes, which was not so elaborate nor so highly specialized as that of the Indians of the adjacent areas.

Clothing
Bags
Quivers

KLAMATH AND MODOC

(Case 201 A)

THESE two related tribes lived about the California-Oregon border, but chiefly in the southern part of Oregon. The Modoc gained a reputation for hostility by reason of the so-called Modoc war of 1872-73, which in brief was due to their desire to be permitted to live on their ancestral lands and in their own way. The Klamath, on the other hand, were always peaceable, accepting the inevitable assignment to reservation life without protest. Both tribes are now practically all in Oregon, the Modoc who were sent to Indian Territory (Oklahoma) after hostilities were quelled, having died or returned.

Hunting and fishing camps were established in favorable places away from the more permanent homes, perhaps for a few days at a time, or for an entire summer: here shelters of willow or of other brush were built, whereas the winter dwellings were of wood slabs. In addition to game and fish, the food supply consisted of wild

Habitat

Character

Houses

Food

Various objects

fruits, roots, and seeds, particularly the seeds of pond-lilies, which practically were a staple.

The objects displayed illustrate more or less of both the ceremonial and the temporal life of these tribes. Attention is directed to a dance headdress made of porcupine-skins, and another made from the pouch of a pelican; a large Modoc bow with elaborately painted designs; and basket hats similar to those of some of their northern California neighbors.

COAST TRIBES FROM CALIFORNIA TO PUGET SOUND

(Cases 203 B, 210 B-214 A)

Tribes
and
Habitat

OWING to a destructive war with the whites, the Indians of the coast of Oregon have retained little of their old life. This is especially true of the natives of the southwestern counties, who long ago were removed to the Siletz reservation, where upward of thirty tribes or tribal remnants are still to be found. Their old method of life having been thus disturbed, their cul-

INDIAN NOTES

ture has of course been largely affected. Somewhat similar conditions prevail with respect to the tribes about the mouth of Columbia river. The operations of the Northwest Fur Company at Astoria, the growth of cities like Portland, and the general settling of the country, have left little to be learned concerning the Indians of this section. Stretching northward from Columbia river, however, a number of tribes, the best known of which are the Quinaielt, the Quileute, and the Makah, still exist and preserve many of their aboriginal ways. These people, especially the Makah, resemble in many ways the coast tribes farther north, and are therefore frequently included by students among the Tribes of the Northwest Coast, to be discussed later. In the region of Puget sound there are many tribes of the Salish stock whose names often end in *-ish*, meaning "people." Thus we find the Skokomish, the Snohomish, the Stillaguamish, the Samish, the Swinomish, the Suquamish, the Dwamish, and others. The collections represent particularly the

last two groups, who live on the eastern and western sides of the sound, in the immediate neighborhood of Seattle. The Indians of the outer coast of Washington have somewhat different artifacts from those living on the quiet waters of the sound itself.

Whaling
211
213 B

Probably the most characteristic feature of native life on the coast is the hunting of whales. The coast tribes, such as the Makah and the Quileute, use implements of primitive design, but excellently made, and with them prey upon these great animals. Going forth in an open canoe, the Indian whalers attack the whales wherever found, and tow them home for food. On these hunts the whalers often navigate out of sight of land, without compass, guiding themselves by the swells and by atmospheric conditions.

Canoe

A specimen of the large canoe used by these people, equipped with a complete outfit for whaling, is a part of the exhibit. It is worthy of note that the canoes of this region, from the standpoint of design, are the best that are known anywhere. The

Museum has published an account of the canoes of Puget Sound.

Throughout this region fishing is extremely important, therefore many devices are used, including traps, nets, spears with a varying number of tines, and a considerable series of hooks. Fishing lines were often made from twisted strands of cedar-bark, but sometimes strips of kelp were tied together for that purpose. Several ingenious traps were employed for catching salmon and other fish while ascending the streams during the spawning season, vast quantities being caught in this way, which were preserved for future use.

Bows, arrows (often tipped with bone points), and snares were used in taking land animals and birds.

Wild fruits of many kinds, seeds, and roots, were also eagerly sought for food. Berries were dried or pressed into cakes.

Baskets, wooden dishes, and spoons of wood or of horn were used in the preparation and serving of food.

Excellent examples of basketry of various weaves have been collected from these

Fishing
211
212
213 B

Hunting
210 C
214 A

Vegetal food

Utensils
210
212 A
213

Basketry
212 A
213 A B
214 A

people, of special interest being those of coiled weave with an imbricated or overlay design, and the fine twined baskets.

Houses

Three forms of permanent houses were used by the Indians of the Puget Sound region: one with a gable roof sloping both ways, another having a one-way slope, called a shed roof, while the third form had a central roof which was almost flat with steeply sloping sections reaching to the side and end walls of the house. These structures were built of planks split from cedar logs, with heavy supporting timbers. In some cases the floor was sunk below the outside level. Some of these houses, occupied communally, were of immense size, one, indeed, that stood within recent times opposite Seattle, measuring 520 feet in length, while even larger ones have been reported. An illustrated account of these types of houses has been published by the Museum.

Clothing
210 B

Before the introduction of European clothing, garments made of animal skins, wool, cedar-bark, and nettle-fiber were worn extensively, but little of these has sur-

vived, excepting in the case of cedar-bark and nettle-fiber, which are still used to some extent, mostly for ceremonial costumes. Several garments made of these materials are displayed.

The influence of civilization has had less effect on the implements of these people than might be supposed, for many examples of the old forms are still found in use, although steel has supplanted stone for edged tools. The persistence in the use of primitive implements is shown by the hand adzes, bone awls, basket and mat-making tools, wedges for splitting logs, and pestle-like hammers, among the collections displayed.

Numerous devices employed in gaming are likewise exhibited.

The religious life of the Puget Sound tribes, as among other Indians, was of prime importance, and much time and energy were expended in the manufacture of ceremonial paraphernalia, as is shown by the objects used in the Spirit Canoe ceremony of the Snoqualmu, the massive wolf masks of the Makah, and other ceremonial objects.

Tools
210 C
212 A B
213 B
214 A

Games
210 B
212 B
213 B

Ceremonies
210 and top
212 B
213 B
214 A

INDIANS OF THE NORTHWEST COAST

(Cases 204-210A, 221, 222, and stairs)

Culture

THE Northwest Coast Indians—a commonly accepted term applied to a number of tribes living on the coast and the islands of southern Alaska and British Columbia—are a people who, owing to their almost isolated position, have developed modes of living and religious rites differing considerably from those of other North American tribes.

The large size and elaborate construction of their houses, built of planks, with their grotesquely painted fronts; the presence in their villages of huge carved totem-poles, often 60 feet in height; their complex and spectacular ceremonies in which monsters, mythic personages, and heraldic totem-animals were impersonated by dancers wearing fantastically carved and painted masks; the decoration of most of their articles of ornament and utility with quaint designs representing the same mythic beings; the unusual extent to which wood

INDIAN NOTES

was used in the manufacture of household utensils, and the employment of cedar-bark for clothing, unite in distinguishing the culture of these people as unique.



Indians of the Northwest Coast.

Another unusual feature was their exceedingly complex social organization, embodying a well-defined caste system recognizing chiefs, commoners, and slaves, the latter

being prisoners taken from neighboring tribes. Slaves as a rule were well fed and well treated. The line of distinction between freeman and slave was sharply drawn in all ceremonial practices, however, from which slaves were excluded. Slave men helped in canoe and house building, fishing, hunting, and even making war on neighboring tribes, while the women and children devoted themselves to the duties of the household.

Tribes

The tribes represented by the specimens exhibited are: the Tlingit, who inhabit southern Alaska between Controller bay and Portland canal; the Haida, of Queen Charlotte islands and southern Prince of Wales island; the Tsimshian, living on Skeena and Nass rivers and adjacent islands; the Niska, on Nass river and Observatory bay; the Kitksan, who inhabit the upper waters of Skeena river; the Kwakiutl, who occupy the country between Rivers inlet and Cape Mudge, and the northeast end of Vancouver island; and the Nootka, living on the western coast of Vancouver island. The related Makah,

living in the northwest corner of Washington, have already been mentioned under the head of Coast Tribes from California to Puget sound. Their range thus includes the coast and the islands between Con-troller bay on the north and Puget sound on the south. Intercourse along the coast by means of canoes is comparatively easy, but travel inland to any extent is hindered by the densely wooded and mountainous country. Owing to the heavy precipitation along the coast and to the influence of the warm ocean currents, the southern parts particularly are covered with dense growths of timber, furnishing materials for houses, canoes, and the innumerable other articles of wood and bark made by these tribes.

The staple food of all these Indians is supplied largely by the sea, hence there are many contrivances for securing fish and sea animals. Nets, hooks, spears, and traps are employed in fishing. Whales, sealion, and seal are harpooned; the practice of whale hunting, however, is confined to the people along the west coast of Vancouver

Food quest
204 A
209 A F
221 A
222 C

island and Puget sound. A complete whaling outfit, including the canoe, is shown at the west end of the hall—this has been already described on page 40. Land animals and birds were formerly shot with bow and arrow or trapped; but in later years, of course, they were hunted with guns. Roots and berries are gathered in abundance, dried in cakes, and stored; when required for use, they are softened in water and eaten mixed with fish-oil. Agriculture was not practised.

Utensils
204 A B
205 A B
221 C
222 A B

The people of this region knew nothing of pottery making, but boiled their food in kettles of wood with the aid of hot stones, while sometimes even a canoe was used as a kettle to render oil from heads, tails, and other trimmings from fish which accumulated in large quantities during the curing season. Dishes for serving the prepared food were also made of wood. Spoons and ladles were made of the horns of mountain-sheep and goats, or of wood, all more or less decorated with conventional designs of animal or bird forms, and in many cases

representations of mythical beings, either by carving or by painted patterns.

As before mentioned, wood and bark were the principal materials used by the Northwest Coast Indians in their manufactures, the yellow and the red cedar, pine-spruce, yew, maple, alder, and hemlock being all of value, but the cedars were most highly prized. Some of these trees attain immense size, affording logs large enough for the construction of canoes sometimes sixty or more feet in length and of proportionate width. Except for a long neck-like bow and a stern-piece, the canoe is hewn from a single log and has a wide reputation for its seagoing qualities. Great planks were split from cedar logs for house-building, and cedar served also for making various kinds of carvings and utensils, such as cooking kettles, buckets, food dishes, and boxes, the manufacture of which shows unusual skill. The square or rectangular forms are usually made in two pieces; the sides are made of a plank which, by means of hot water, is bent around the bottom of the vessel, V-shape cuts being previously

Wood-
working
208A
221C
222C

Feast
dishes
204
205
221 C
222 AB

Cedar-bark
209 E
210 A
222 A C

made across the plank where the corners should come. The bottom is usually fitted with a step-like joint, and the whole is sewed together with strips of spruce-root.

Other food dishes are made from one piece of wood in many forms and sizes, more or less decorated with realistic or conventional designs. Attention is called to three large, canoe-like feast dishes or troughs, displayed in front of the whaling canoe.

Cedar-bark was an important factor in the manufacture both of baskets and clothing. From this material soft, pliable, warm blankets and robes were woven, the bark first being shredded and beaten into long, fine fibers which are twisted into threads. The bark is also stripped and split into ribbons and used for the manufacture of mats and baskets. In its shredded and beaten state it provides comfortable, soft bedding for the baby's cradle, and plays an important part in the embellishment of ceremonial objects. Efficient ropes and cordage are also made from cedar-bark.

The houses of the Northwest Coast Indians are noted for their solid, massive construction. They are built large enough for the accommodation of several families, being often fifty or more feet long, the sides and ends generally rectangular, with a flat gable roof. The sides and roof are built of large cedar planks, split out and hewn with adzes to an even thickness. The roof support is composed of two logs, often two feet or more in diameter, eight or ten feet apart, lying lengthwise of the house, each supported by two or more vertical logs or house-posts. Smaller poles are laid from the two central logs to the sides of the house, and on top of these the roof planking is laid. The house-posts are frequently carved to represent some guardian spirit, and the upper ends are notched to receive the ridgepoles. Considerable mechanical ingenuity is employed in raising these massive timbers into place. Examples of such house-posts may be seen on the First and Second floors, and on the stairway. A raised platform is erected around the walls, inside of the house, on which are built sleeping

Houses
Carved
posts
221 B top

quarters for the separate families. In some regions spaces partitioned with cedar-bark matting furnished some seclusion around the individual fireplaces. The front of the exterior of the house is sometimes ornamented with mythological paintings, and occasionally the rear wall of the interior is similarly decorated. Such dwellings represent the highest achievement in wooden-house construction to be found among the North American aborigines.

Once in a while a huge totem-pole is mounted close to the front of the house, as may be seen in the model on the top of Case 221 B, with an aperture forming the entrance to the dwelling; but the usual custom is to erect a totem-pole a short distance from and in front of the house. The carvings on these poles represent the totems or animals used as crests by the ancestors of the family occupying the house, and often likewise the personages figuring in the family traditions, hence for this reason they might well be called heraldic columns.

Deerskins supplied part of the material for dress. Before the introduction of European clothing, the main garment consisted of a blanket or robe of fur or tanned skins, or woven of mountain-goat wool, dog-hair, or cedar-bark. Men wore a shirt under the blanket, or sometimes only a kind of kilt, while women in addition wore a petticoat. The legs were usually bare, but leggings were sometimes used by men, especially as part of a ceremonial costume. Since the introduction of trade blankets and of wearing apparel generally, aboriginal clothing has almost disappeared; but the manufacture of native garments from trade materials, and the use of native designs in decorating the trade blankets, has survived. Many examples are shown in which pearl buttons and colored cloths have been used in working out fanciful forms of ornamentation. Ear-ornaments and nose-ornaments of bone, ivory, metal, and haliotis shell were common. The women of the more northerly tribes wore a lip-ornament, or labret, inserted in a perforation in the lower lip; this at first was

Clothing
204 B
205 A
209 D
222 AC

Ornaments
207
208 B C
209 E

Games
204 B
208 A C
221 A
222 B

small, but from year to year larger ones were worn, until ultimately the lip became a mere ribbon encircling the ornament. Among the Haida, Tlingit, and Tsimshian the labret was a mark of distinction.

Games of chance were indulged in, and many forms of gaming implements are displayed, notable among which are the cylindrical gambling sticks, with sometimes as many as 70 to a set. Several sets exhibited are made of ivory, and some are inlaid with *haliotis* shell. Quantities of personal belongings change hands as wagers in consequence of these games.

Pipes
204 B
208 B C
209 E G
222 B

The pipes of the Northwest Coast Indians are noteworthy for their variety in form. Many of them are carved to simulate fabulous beings that played a part in tribal traditions; others represent the family crests of the owners; while still others are copies of European shapes. The carvings and inlays of *haliotis* shell are of excellent workmanship. While stone, bone, and ivory are employed in the manufacture of pipes, wood predominates, and when made of this material the bowl is usually lined

with metal, such as a piece of a gun-barrel or a brass ferrule. Some Haida pipes, made of slate, show truly remarkable carvings.

Interesting is the use of native copper in this region, obtained from nuggets and hammered into varying forms for use as ornaments, ceremonial objects, hunting and fishing implements, and weapons. Some of the finest work was done on the war-knives made of this metal, some of them double-pointed, of which a number of specimens are exhibited, while another excellent example of copper-working is a neck-ring made by hammering nuggets thin and twisting them into a rope-like form. When the Indians secured silver from the whites their metal-work became even finer, as many handsome earrings and bracelets in the collection, engraved with characteristic totemic designs, will show; while the fluted knives of steel, often made from old files, are masterpieces, even exceeding the earlier ones of copper.

In former times the Northwest Coast people were more or less warlike, and in

Copper and
other metal
work
205 B
206 B
207, 208 C
222 C

Armor
205 B
222 A

Other war
equipage
206 AB

battle protected themselves with a kind of armored coat made of hardened hide or with breast- and back-plates formed of slats or rods of wood bound together with cord. In addition to the war-knives or daggers mentioned above, warclubs of various forms, made of bone, wood, or antler, are shown, as well as some helmets and neckpieces fashioned from wood, carved to represent animals, used as family crests, and worn in connection with the body armor.

Religion
Ceremony

The ceremonial life of the Northwest Coast Indians was spectacular and complicated. Rites were performed not alone as prescribed religious observances in the sense of worship, but often for the purpose of seeking the aid of supernatural beings or guardian spirits in any undertaking, while sometimes a rite was performed mainly to display personal wealth. Often the ceremony itself was a dramatization of some old legend, the characters of which, whether human beings, animals, or monsters, were impersonated by dancers wearing appropriate masks and costumes. A

ceremony commonly known as the *potlatch*, varying in details with the locality, was marked by the giving away of quantities of goods of every kind, the accumulation of a lifetime, the giver sometimes impoverishing himself, but thereby gaining the deepest respect of his fellow men. On such occasions children were initiated into secret societies, when their noses and ears were pierced for the insertion of ornaments, and among the Haida it was a common practice to tattoo the children at such times. Many of the religious rites were accompanied by the beating of drums, singing, dancing, and the use of flutes, whistles, and rattles, and oftentimes the bodies of the dancers were painted. Rattles were important objects in these ceremonies, and many specimens showing exquisite carving and painting are displayed. One or more always found in a shaman's outfit, are used in the practice of his healing incantations. A complete outfit of this kind is shown from the Kitksan, including various bird-skins, feathers, animal-skins, and charms of wood and stone, all of supposed great potency.

Musical
instruments
209 A G
221 B

Shaman's
outfit
208 A

Masks

204A
222C

208C

206AB
222A

The masks are particularly worthy of notice by reason of the high development of art shown in their carving and painting. A number of knives, paint-brushes, and paint material used in this work are exhibited, together with patterns made of bark and leather for outlining designs. The carvings and paintings on the masks, rattles, and other ceremonial objects are not for mere embellishment, but often represent the supernatural beings which appear in the mythology of the people; others represent clan totems; while some are made to depict persons held in derision. Sometimes portraiture was attempted, with no mean results, as is shown especially in a mask produced by the Niska, depicting a wrinkled old woman with a massive labret in her lower lip, and incidentally giving an excellent idea of the appearance of a woman wearing such an ornament. Some of the masks are made of copper, with equally effective results. To accentuate the lifelike character of the masks, some of them were made with mechanical appliances so that the eyes might

be opened and closed by means of strings operated by the persons wearing them. In some cases the masks were too large and heavy to be worn as such without assistance, as exemplified by a mask of the Kwakiutl, representing a sea-monster, with movable tail, fins, and mouth. Immediately beneath this is shown a large mask depicting a raven with a mechanical beak. A striking form of ornamentation is exhibited in the use of haliotis shell on masks, head-dresses, pipes, and other objects. This shell is in great demand, and finds its way among these people by trade from the California coast.

Especially noteworthy as illustrating the esthetic ability of these tribes are their fine twined baskets, found at their best among the Tlingit, who were adept in the production of decorative designs and harmonious colorings in their basketry.

Also from an esthetic point of view, the so-called Chilkat blanket may be classed among the finest examples of North American aboriginal textile art. The patterns are based on the forms of heraldic totem

209C

Baskets
205AChilkat
blankets
204B
208C
and stairs

animals and legendary monsters conventionalized, dissected, and adapted to decorative purposes in a most ingenious way, while the weave, though not so fine as some of the ancient Peruvian work, is equally intricate. The Chilkat blanket is woven without the aid of shuttle or batten, and, it may be said, without a loom; indeed the nearest approach to that implement is a cross-bar held up by two forked sticks thrust into the ground; warp-strands are hung over the cross-bar and the weaving thus proceeds from the top downward. In this respect Chilkat blanket weaving is unlike most other native methods, where the process is commenced at the bottom and continued upward. The warp-strands consist of a core of cedar-bark covered with mountain-goat wool; the weft-strands are of wool alone, and the weaving is pushed into place with the fingers. This form of weaving was reported by an explorer as early as 1779.

It is interesting to note that the characteristic art of the Northwest Coast people, as exhibited in their exquisite carvings in

wood, ivory, bone, and horn, in their silverwork, and in the weaving and decoration of their blankets, was most highly developed among the Tsimshian, the Tlingit, and the Haida; it was less advanced among the Kwakiutl and especially the Nootka, and reached its lowest form among the Makah, whose basketry, however, will compare favorably with that of most of the other tribes of the group.

THE TAHLTAN

(Case 224 and drawers)

THE Tahltan (map, p. 35) are an Athapaskan tribe living on the upper reaches of the Stikine and on the Tahltan and Tuya rivers in British Columbia, about 150 miles directly east of Sitka, Alaska. They are represented in the collections by a number of specimens illustrating their daily and ceremonial life. These people are primarily hunters and trappers, hence are more or less nomadic. Friendly relations exist between them and their nearby coastal neighbors, the Tlingit, by reason of the

Habitat

Trade

exchange of products between the two peoples, which has resulted in such close contact that a similarity in some of their manufactures is found, particularly noticeable in the pipes and war-knives or daggers, some of which, especially the knives with elaborately carved ivory handles inlaid with *haliotis* shell, are evidently of Tlingit origin. The gambling sticks displayed are similar to those of the Tlingit, but the carrying pouch is of different shape. To some extent the social organization of the Tahltan has been affected by their association with the coast people. One rite which is rigidly observed by this tribe and which has not been influenced by contact with the Tlingit is the puberty ceremony so characteristic of the Athapascan tribes. A complete outfit used in connection with this ceremony is displayed.

Art

The use of trade beads for decorative purposes is more apparent among the Tahltan than among the Tlingit. Knife-sheaths, pouches, and bags of varying forms present an array of floral and geometric designs carefully worked in colored

glass beads. Another form of embellishment is shown on many of their bone implements, such as handles of their work knives, skin-dressing tools, and spreaders for burden-straps, which are ornamented with geometric designs cut in the bone, the incised lines being emphasized with pigments.

The typical dwelling of the Tahltan in earlier days was very primitive, consisting merely of a lean-to shelter framed of poles and covered with spruce-bark. Usually two such structures were built, their openings facing each other and a few feet apart. The passageway between was left open in summer, but in winter it was closed at one end with brush, while the other served as the entrance. The fire was built in the middle of this passage, under the opening. Caribou, moose, and mountain-sheep skins, with the hair on, were used as bedding, and blankets of fox, squirrel, marmot, and lynx skins for coverings.

Household utensils of home manufacture were few and poor. Kettles and receptacles of birchbark, spoons of mountain-

Houses

Utensils

sheep and goat horn, antler, and wood, were made by the Tahltan, but in their trade with the Tlingit they obtained better wooden food dishes, boxes, baskets, and other utensils. Stone and bone tools for skin-dressing, of patterns used in prehistoric times, have not altogether been discarded for such implements as might be supplied by white traders. A characteristic feature in their life was the use of bags, made of tanned skin or of netted babiche, in various shapes and sizes to meet the needs in packing loads, the Tahltan being land travelers.

Food quest

Snares and deadfalls were employed to a great extent in securing game, but not to the exclusion of the bow and arrow. Hunting of mammals is still carried on during the winter season while the furs are in prime condition; but springtime is a period of rest, and later when the salmon run commences considerable time is devoted to fishing and fish-drying.

EMMONS COLLECTION OF JADE
OBJECTS FROM BRITISH
COLUMBIA AND ALASKA

(Case 219 A, B)

THE Museum is enabled to display an unique assemblage of finished jade implements and ornaments, as well as a number of specimens showing processes of manufacture, a detailed account of which, illustrated largely in colors, has been published by the Museum under the authorship of Lieut. G. T. Emmons, U. S. N. (retired), through whose courtesy the collection is deposited. The unfinished objects of jade exhibit especially the slow and laborious process of sawing, one of the masses having been partly severed with the thin slab of hard stone still within its groove. Considering the great hardness and toughness of jade, and the primitiveness of the tools with which it was worked by the natives, the implements and ornaments that have been produced are most noteworthy. The labels afford sufficient information to meet

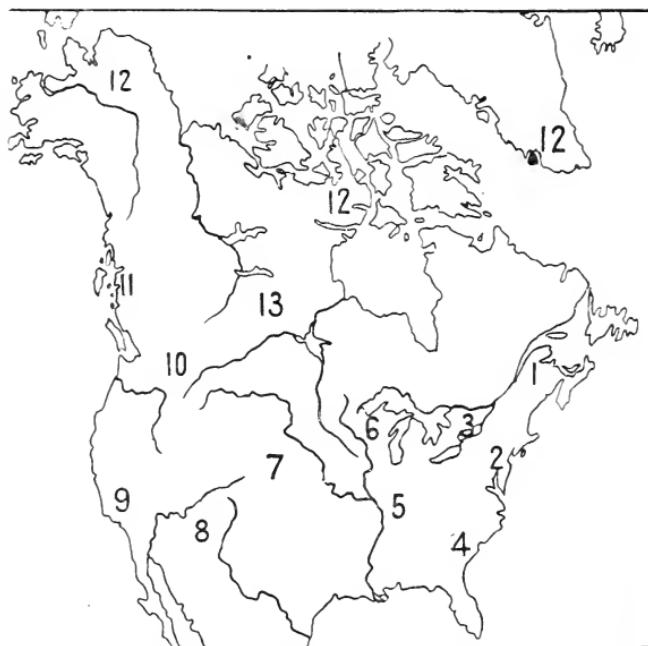
the need of the casual observer, while those more deeply interested may consult the publication referred to.

EAST HALL

ARCHEOLOGICAL CULTURE
AREAS OF THE UNITED
STATES AND CANADA

ITHIN the territory now occupied by the United States and Canada lived a large number of tribes, differing not only in language and customs but also in manufactures, from which it follows that we may expect a corresponding difference in the ancient remains found in the districts they occupied. While it is true that a collection from any one district may contain specimens made at widely different times, and by several distinct tribes which successively occupied it, it has been possible to divide the continent into a number of areas within the limits of each of which we may expect to find certain characteristic implements and utensils. These regions, called culture areas by

archeologists, often include a number of adjacent states. Occasionally it has been possible to identify the specimens in the



ARCHEOLOGICAL CULTURE AREAS.

1, North Atlantic. 2, Central Atlantic. 3, Iroquois. 4, South Atlantic. 5, Ohio-Mississippi. 6, Great Lakes. 7, Plains. 8, Pueblo. 9, California. 10, Columbia-Fraser. 11, North Pacific. 12, Arctic. 13, Canadian.

exhibit as the product of some particular tribe; and where they have been found by Museum expeditions, the relative age

of different classes of objects has sometimes been determined. In these cases special mention will be made later in discussing the collections from the various states. The following list of culture areas is based mainly on Dr Clark Wissler's latest classification. It must be remembered that the boundaries of these districts are not, as a rule, clearly defined, and that we may expect to find in the margins of each, objects characteristic of the adjacent areas.

1. North Atlantic Area: This area includes the Maritime Provinces of Canada, and the states of Maine and New Hampshire. No mounds or earthworks are found here, but large shellheaps exist along the coast, and many village-sites and cemeteries have been found. Pottery in this district, when it occurs at all, takes the form of round-bottom vessels with outcurved lips and stamped decoration; the typical stone implements are the angular celт, the gouge, the adze, and the plummet-shape stone. In some localities long ground slate points have been found under conditions indicating the presence of an early special-

ized culture, called the "Red Paint People" on account of the large quantities of red paint found in their graves.

2. *Central Atlantic Area:* The New England states south of Maine and New Hampshire, and a region of varying width along the coast southward to Virginia, comprise this area, which is marked by the presence of numerous shellheaps (averaging smaller in size than those of the preceding region), village-sites, cemeteries, and rock-shelters. The typical pottery vessel of this area is egg-shape, with pointed base and a band of impressed or incised decoration about the rim; and pottery was supplemented by oblong vessels of steatite, usually provided with handles at the ends. Earthenware pipes are simple, either tubular or slightly bent, and bear decoration similar to that seen in the vessels, but on a smaller scale. The stone pipes, as a rule, are quite plain, but some bear animal effigies, and the handsome platform pipe is occasionally seen. The typical forms in stone are the grooved axe, rounded celt-axe, and long cylindrical pestle, and, in addition, especially east of the

Hudson, the gouge, adze, and plummet-shape stone, as in the preceding area. The bannerstone, bird-stone, gorget, and stone tube, all classed as problematic forms, occur here, and some of the finer ones have been found under conditions showing the presence of a culture preceding the tribes found in possession of the country by the first white settlers. The use of native copper for implements and occasional ornaments may probably be attributed to this early culture. Certain semilunar knives and points of rubbed slate seem to be characteristic of another culture, resembling that of the Eskimo, and undeniable traces of two successive periods of occupancy have been found in certain parts of New Jersey.

3. *Iroquois Area:* The earlier inhabitants of central and western New York, the adjacent portions of Pennsylvania, and the southern part of Ontario, were similar to those of the Central Atlantic area, and left similar remains; but the latest inhabitants of the region in question before the arrival of Europeans were the Iroquois tribes,

whose abundant archeological remains afford one instance where identification is easy and the sequence of cultures positive. Earthworks built for the purpose of fortifying village-sites are plentiful in this Iroquois region, but the few mounds found represent for the greater part a different people and an earlier date. The pottery of the Iroquois is very characteristic, although there are local variations. The most typical form of vessel has a rounded bottom and a constricted neck surmounted by a projecting rim or collar bearing an incised design. This rim sometimes rises in a series of graceful points, from one to four, which often bear more or less conventional effigies of the human face. Earthen pipes are very characteristic, always bent in form, and often show effigies of men and animals modeled in the round, or neat incised patterns. Stonework is remarkable for its paucity of forms, the celt, usually of rectangular section, being the only type of axe found, and the narrow triangle without stem or notches the only shape of arrowpoint. In bone, however,

we have a considerable variety of well-made awls, harpoons, needles, and combs; but copper was seldom used, if at all.

4. *South Atlantic Area:* From Virginia southward the situation is very complex, owing to the number of distinct tribes and stocks that once made this region their home. Mounds, both for burial and domiciliary purposes, are abundant, and shell-heaps, village-sites, and cemeteries are numerous. The characteristic pottery of this region, whatever the form of the vessel, shows a body decoration applied with a stamp, in reality a carved paddle, and a peculiar low bowl with incurving rim suggesting West Indian forms, is found. In some regions the pottery vessels found accompanying skeletons have been "killed" by breaking a hole in the bottom, and sometimes vessels were made with such a hole in the base, especially for burial with the dead, this mortuary ware sometimes taking weird and fanciful forms. Pipes of pottery and of stone show great variety in shape, size, and finish. In the line of stone implements grooved axes are rarer than in the

preceding areas, and some of the celts-axes are like those of the West Indies. Forms peculiar to the region are the stone bowls and stone plates or discs, often handsomely carved.

Copper was usually made into ornaments in this region, although some implements of this metal are found, and, very rarely, ornaments of gold are discovered. Another feature is the abundant use of shell for ornaments, and even for implements. Special developments of culture are, as might be expected, found in different parts of the area, and it has been possible to work out a partial culture-sequence in some districts. Archeological work has shown, for example, that the Cherokee were comparatively late comers in this region, and had displaced other tribes, whose remains are sometimes found in place beneath their own.

5. *Mississippi-Ohio Area:* This vast territory has been the scene of many tribal migrations, and most parts of it have doubtless been occupied by different peoples at various times, as often confirmed by archeological field-work. The area may be segregated into

many subdivisions; for instance, both in Ohio and in Arkansas we have evidence of two distinct mound-building cultures, but this would be difficult to accomplish for the entire area until we have more information at hand. The most characteristic feature of this whole region is the presence of mounds, large and small, and, in some parts, of earthworks or fortifications. Rockshelters are found also in the limestone regions of Kentucky, Tennessee, Arkansas, and Missouri, and these when dry have yielded many interesting examples of prehistoric basketry and other textiles. The typical pottery embraces many effigy forms representing men and animals, and in some regions the use of two or more colors in decoration is seen. Pipes cover a great range of form and material, but a very fine type of platform pipe bearing effigies of animals was developed in Ohio, and a large heavy effigy pipe in Kentucky and Tennessee. In stone we have the discoidal or "chunkey stone," the grooved axe, the celt-axe, the bell-shape pestle, a great variety of problematical forms in stone, and the large

flint blades known as hoes or spades. Copper was used for the manufacture of ornaments in this area more than for implements, and many fine pieces of repoussé work have been found. Shell was widely employed for making beads and ornaments, some especially fine examples of engraved shell gorgets coming from Tennessee.

6. The Great Lakes Area: This area lying north of the preceding, about the western Great Lakes, is also noted for the presence of mounds, which, however, were frequently made in the form of animals, these effigy mounds being one of the typical features of the region. Copper-working reached its climax here, for about Lake Superior was the principal aboriginal source of supply of this metal. It is noticeable, however, that implements of utility, such as axes, knives, awls, and arrowpoints, were manufactured in this district almost to the exclusion of ornamental forms. In stone we find the most characteristic articles to be the fluted grooved axe and the faceted celt, but a great variety of other forms occur, including those known as problematical—

the bannerstones, bird-stones, gorgets, etc. In this area, also, local variations of culture appear.

7. *The Plains Area:* Little is known of this great area archeologically, but explorations, so far as they have progressed, have revealed for the greater part merely objects that may be referred to the recent tribes, and that reflect the cultures of the surrounding regions. Quarries, pictographs, and bowlders laid in long lines and circles are characteristic of the area, and cooking vessels of stone were used in some places.

8. *The Pueblo Area:* Centering in New Mexico and Arizona is the Pueblo area, home of the tribes now grouped under this name, whose ancestors occupied the villages of well-built communal stone houses, now in ruins, that have yielded so large a part of our archeological exhibit. Painted pottery is the outstanding feature of the Pueblo collection, and decided differences will be noticed in the ware coming from different districts. The question of time is perhaps more important here than elsewhere, for it has been discovered that even

on the same site the people made different kinds of pottery at different periods. The "Cliff-dwellers" of this region were not a mysterious extinct race, but merely ancient Pueblo Indians, doubtless in many cases the ancestors of surviving tribes, who chose to build their many-roomed houses in caves and rockshelters high up in the cliffs for safety's sake, rather than out on level ground, as was afterward generally done. In some regions the Cliff-dwellers were preceded in the caves by the "Basket-makers," a much more primitive people who made no pottery worthy of the name, but devoted their talents mainly to baskets and other textile fabrics. Among the characteristic features of the ancient Pueblo area, besides the painted pottery, are the extensive use of turquoise for fashioning beads and ornaments, the manufacture of inlaid objects, the use of the stone metate for grinding corn, and the very wide use of bone for the making of implements.

9. *California Area:* The state of California constitutes a culture area by itself, although, as will be seen later,

three or four subdivisions may be distinguished. Most of our specimens came from cemeteries, mounds, shellheaps, and village-sites. Characteristic of the area are tubular pipes, an abundance of stone mortars and pestles, many of them large and well made, perforated circular stones, cooking vessels of steatite, steatite arrow-straighteners, heating-stones of steatite, the so-called hook-stones, many forms of beads and ornaments of shell, especially of haliotis, fishhooks of shell made in almost circular form, the use of asphaltum as a cementing material and in inlay work, and the extensive use of bone. Pottery is absent, except in the southern portions, and copper was apparently not used.

10. The Columbia Basin: Embracing the greater part of the states of Washington and Oregon, and the interior portion of British Columbia, may be found another culture, which is by no means uniform, some typical objects being absent in some regions. Characteristic features are the pestle-shape hand-hammer of stone, stone pestles, the tubular pipe, the paddle-shape warclub,

handles for digging-sticks, made usually of antler, arrowshaft smoothers of stone; in the southern part a variety of carvings in stone, some representing the heads of animals, and in the northern portion a figurine of stone representing a man holding a receptacle of some sort in his lap. Nephrite, a form of jade, was a favorite material for adze-blades in this northern region, and native copper was sometimes made into implements and ornaments.

11. The North Pacific Coast Area: Along the coast from Puget sound northward we find a series of shellheaps, which until we pass the mouth of Fraser river show many similarities to the preceding culture. Between this point and Alaska little is known, except that many shellheaps exist, and that rubbed slate points, associated with chipped flint forms on Puget sound, here seem to be the only type of points used.

12. The Arctic Area: Little is known of this region archeologically, but the work already done has brought to light the rude pottery, the chipped flint points, the rubbed slate points and knives, and the great

variety of implements and ornaments carved of bone and ivory characterizing the culture of the recent Eskimo.

13. *The Canadian Area:* Even less can be said of the whole interior of Canada, for the only work attempted, along the southern border, revealed conditions similar to those in adjacent areas. We must then await further explorations to determine the archeological characteristics of this area.

NEWFOUNDLAND, NOVA SCOTIA, QUEBEC, NEW BRUNSWICK

(Case 226 B)

THE northernmost regions of the Atlantic coast of the continent present material worthy of intensive study, but very few museums, other than local institutions, have series of collections large enough to represent adequately the territories whence they came. The specimens here shown from Newfoundland, Nova Scotia, Quebec, and New Brunswick are indicative of certain types found in these regions and the charac-

ter of the work produced by the ancient people.

The earliest known inhabitants of Newfoundland were the Beothuk. This name, which probably signifies "man," but one that was used by Europeans to designate "Indian" or "Red Indian," is a term having its origin in the habit of these Indians of painting their bodies and of covering their implements and ornaments with red ocher. Originally they were classified as an independent stock. Some writers claim that they have certain affinities with the Eskimo, but recent investigations tend to show that they may have been a branch of the eastern Algonkians.

The majority of the artifacts found in Newfoundland are probably of Beothuk provenience, but Micmac invasions, friendly visits of the Nascapee, or Labrador Montagnais, and Eskimoan influence in the extreme northern part, have caused an intermixture of alien objects. Whether prehistoric cultures differed from those found by the first white explorers cannot be determined, but it is quite certain that most of the artifacts

found in this region are from tribes related to those that have been mentioned. The Beothuk and Micmac, as published in one of the *Indian Notes and Monographs* of the Museum, presents much that will be of interest to those who are especially interested in these tribes.

Nova Scotia, New Brunswick, and the interior portion of Quebec were inhabited by peoples of Algonkian stock, but the coast line of Labrador was the home of Eskimoan tribes.

MAINE

(Case 226 B)

To Algonkian tribes are attributed a majority of the artifacts found in Maine, and with few exceptions the implements and ornaments are similar to those from adjoining states. Maine was heavily wooded and abounded in game, hence many arrowpoints and spearpoints of stone and bone are found throughout its area. Among the North Atlantic tribes chipping was the method employed in fashioning stone arrowpoints, spear-

points, knives, drills, and scrapers. Examples of these are shown in this exhibit, as are also arrowpoints, spearpoints, harpoons, and awls of bone. Many are from shellheaps which have been located on the coast. From village-sites and cemeteries of the interior are pestles; mortars; axes, grooved for hafting; celt-shaped axes, the aboriginal form of man's axe, or tomahawk; adze-blades; celts; chisels; gouges; picks; hammerstones, and net-sinkers. This state is noted for the long, slender celts and gouges, and for the number and variety of plummet-shape objects. It has been suggested that these so-called "plummets" were used as pendants, and as bolas, and many other possible uses have been advanced, but even the resident Indians cannot now definitely determine their actual use. Another type of stone object, similar in form to the plummet-shape stones, is fashioned to represent a whale and may have been an amulet. Among the ornaments selected for exhibition are pendants of stone, also beads of shell and bone.

In Maine has been found a new and in-

teresting culture which research has shown to be evidently of considerable antiquity and seemingly unknown to other parts of the East. Owing to the fact that most of the human burials are accompanied with deposits of red ocher, the distinguishing term "Red Paint People" has been applied to them. One of the characteristic artifacts produced by this people is the slender, delicately tapered spearpoint made of slate. Four of these are on exhibition, but they are relatively small as compared with some that have been obtained from cemeteries. It will be noticed that, whereas most of the arrowpoints and spearpoints of the East are of the chipped type, those of the Red Paint People present a smooth surface, produced by means of grinding. A broad type of ground or polished slate spearpoint and knife is shown in the case, but whether they have any relation to this particular group cannot be determined. The similarity between these slate objects and those of the Eskimo have caused some students to attribute an Eskimoan ancestry or contact. Whether Beothukan influence or actual

occupancy may be responsible for either type of ground stone implements cannot be stated, but the finding of masses of red ocher with most of the burials of the Red Paint People may form a connecting link between the two cultures.

NEW HAMPSHIRE

(Case 226 A)

THE culture of New Hampshire is a continuation of the Algonkian as described in Maine. The stone implements are similar in type and form, but there are a few that are not represented in the Maine exhibit. These include the gouges that have been grooved for hafting, sometimes called adze-gouges; bannerstones; gorgets; and cooking vessels made of steatite. The grooved gouges were fitted with a handle and were used, as were the adzes, in hollowing out canoes and in fashioning smaller receptacles of wood. The bannerstones and gorgets must be classed under the head of problematical stones. Various uses have been suggested for both. Gorgets, as the

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name implies, were ornaments suspended from or worn near the throat, or gorge. That many of our so-called gorgets were worn suspended from the neck or attached to clothing near the throat is quite probable, but there are many forms that could not have been used in this way. Those with one or two perforations are the most common, the former being perhaps used in the way of pendants and the latter possibly attached to the hair or clothing. They are found in old village-sites and with burials, and, in other regions, many have been unearthed with inhumations in mounds.

Bannerstones of the type here shown are of the winged variety. Although their use is not known, it has been suggested that they were mounted on staffs and carried banner-like, in ceremonial performances.

Particularly interesting are the semilunar knives, four of which are exhibited. In some of the North Atlantic regions these are found in association with polished slate knives and projectile points. As these implements so closely approximate the types still in use by the Eskimo, and, as the ulu,

or woman's knife, is not represented in the known Algonkian or Iroquoian products, although knives of this form have been found on Algonkian village-sites, students may be justified in attributing them to an Eskimoan occupancy in early times or at least to contact influences.

In many of the state exhibits in this hall, some objects of alien origin will be found. For instance, among the metal objects from New Hampshire are arrowpoints made of European brass and copper; these of a surety are of Indian manufacture, but whether the material was obtained from the whites after the conquest of this region, or through the medium of exchange, has not been determined. The iron pipe is no doubt of alien production, but many of the objects of the early contact period were buried with the dead, and are also found in refuse-heaps, and therefore should be exhibited with the native objects with which they were found.

In cooking, the pottery jar was in general use, but cooking vessels made of steatite also were employed throughout this area. Steatite is a talcose rock commonly called

soapstone, and, owing to its resistance to the action of fire, could be used indefinitely. Most of these vessels, as in the case of the one on exhibition, have handles or supports by means of which they could be readily moved or suspended between stones while in use over the fire.

VERMONT

(Case 227 C)

SITUATED between the Algonkian region on the east and the Iroquoian on the west, Vermont has been the scene of marked activities on the part of both cultures. The chipped implements are similar to those found in New Hampshire, with a few modifications due to the Iroquois. Long, symmetrically chipped drills and large chipped knife-like implements are particularly in evidence. Whether these large leaf-shaped pieces were used as knives or in some other capacity, is not known, but many of the more southerly states present similar blades for the consideration of the student. A series of slate knives evidences the existence of the same

tribal problem in Vermont as was found in Maine and New Hampshire. The large stone tube is a new form of this object, and one of the tube fragments is that of one of the highly polished type with thin walls which will be described in detail when other states of the North Atlantic group are being considered.

Garments made of tanned skins were worn by the Indians of this region, and the preparation of deerskins in particular was an industry to which much time was devoted. Hand and hafted scrapers were employed in the removal of fat and adhering tissues, and in softening the skin, which were some of the stages of the tanning process. It will be noted that the scraper for this work is much larger than the ones that were used in the working of wood and bone, although the small ones were used also in tanning furs. One of the main sources of thread material of the early days was sinew, which is the tendonous animal fiber procured by the Indians especially from the large deer tendon, about two feet in length, which, starting at the neck joint, lies along

the sides of the backbone. Plant fibers were also used. In preparing the sinew various implements were employed, among which was a dressing-stone grooved on the edge, with which the thread was reduced to the required smoothness.

Among the adze-blades is one of exceptional size and symmetry, and one of the pestles shows a crudely carved animal head on the handle end. As copper implements are uncommon in this region, the large celt-shape adze-blade of this material is worthy of special notice. Stone pipes are in evidence, two of those shown being of the trumpet type. As in the case of the copper implements, pipes are not of common occurrence.

Many potsherds are found on the old village-sites, but few perfect vessels are known. A very good example of the collared Iroquois type and a rim of a second vessel are shown. The Algonkian vessels are represented only by fragments, but these show a marked difference in the treatment, especially of the rim portions.

MASSACHUSETTS

(Case 227 B)

MASSACHUSETTS is another state where objects showing both Algonkian and Iroquoian culture are found. Having been colonized at such an early period, some of the first ornaments and implements of alien provenience are found in contact with those of pre-Columbian times. Beads, especially of glass, were introduced in quantities and proved to be one of the best media of barter with the natives; bracelets, spoons, and other objects of metal, as here shown, were welcomed by the Indians and used, either in their original shape or reworked to form pendants or other ornaments. The bullet mold is another object for which they had no use and therefore did not make prior to the advent of the foreigner. Arrowpoints, beads, and rings were occasionally made of native copper, but the majority of these objects now found were manufactured from brass or copper obtained from the whites.

Ornaments for personal adornment made from stone in the form of gorgets, pen-

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dants, and beads, are quite common, but charms showing carved surfaces are rare. One of these is shown. It is a small, flattened, perforated stone disc having a human face carved in relief on each side.

As the grooved axe was the type used in the everyday life of the Indians, many of them are found throughout this area. They were seldom ornamented, whereas some of the grooved gouges have animal heads carved on the end; the one here shown has such a head, but it is of very crude workmanship.

Aboriginal quarries of steatite have been found in Massachusetts and in adjoining states. From these the natives obtained the material with which cooking vessels and various implements and ornaments were made; in fact, the cooking vessels were generally fashioned in the quarries, the form of the vessel being crudely roughed-out before the piece was separated from the mother rock. A maul and pick, such as were used in working steatite, are shown, also several of the vessels themselves, one of which has a face carved on one end. Sinkers

for fish-lines and stone net-sinkers tell of the fishing activities, and a series of semi-lunar stone knives show the continued southern extension of the limit of this particular implement. Pipes are relatively uncommon, and very few pottery vessels are in evidence from this state. One jar of Algonkian type, but showing Iroquoian influence, and sherds of pottery which show general treatment accorded vessels of this material, are all that we have of the fragile productions of the Massachusetts aborigines.

Owing to climatic conditions, perishable objects, such as those made of wood, skins, feathers, etc., were not preserved. Thus it is that implement handles, bows, arrows, carvings, clothing, and the innumerable smaller implements and ornaments have, through decay, been lost to science. The lack of damp-proof caves in the East has been responsible to a degree, but in several instances circumstances have been such that the usual decay has been delayed, and perishable objects have survived. Of the thousands of hafted axes that were used in the North Atlantic area, hardly a dozen with

handles intact have been found, and of these more than half have wasted away to such an extent that the original outlines of the handles cannot be determined. Two of these from the United States are represented in this Museum, and of these one is from Massachusetts. As shown in the case it speaks for itself, the celt type of axe fitting a perforation in the wooded handle and the general form of the handle being very well preserved. This axe was found in Mattapoisett, Plymouth county, and creditably demonstrates the method employed by the Indians of this region in hafting this type of weapon.

RHODE ISLAND

(Cases 227 A, 228 A B, 229 A, 287 G)

RHODE ISLAND was dominated by Algonkian tribes, and some of their cemeteries have been discovered and identified. Notable among these is one of the Wampanoag at Warren. In this cemetery, at Burr's Hill, alien articles predominated, but the material is so well preserved that

the uses of many of the native implements and ornaments are shown. The use of wampum beads is presented in the forms of sections of necklaces and belts, and strings wrapped about bundles of human hair and other objects. A section of a belt made of glass beads but of wampum-belt technique is unusual, as few of these are known among the belts that have been used in historic times. One of these is shown in the wampum exhibit (Case 131 C D) on the First Floor.

Copper and brass, obtained from European kettles, were fashioned into knives and other implements of general utility, and also into ornaments. Attached to some of the knives are the original wooden handles. Through the action of the copper salts portions of European blankets and fragments of native basketry and matting have been preserved. Many of the metal objects found associated with burials are shown in this case; they range from Jesuit rings, hair ornaments, combs, and spoons, to hoes, axes, hammers, and large cooking vessels.

In the adjoining case (228 A B) is a

continuation of the material from the Burr's Hill cemetery. Glass bottles and vessels of earthenware, including cups, plates, etc., were found with the bodies, as were also trade pipes, glass beads, and gun-flints. Both in the prehistoric and early historic periods engraved objects were seldom made, and the perforated stone from this site shows but a crude attempt at figure delineation. Among the other objects of native workmanship are arrowpoints made of deer-antler.

In the general Rhode Island collection trade material is shown, but most of the objects are of native make. The manufacture of the stone pipe is shown by means of a partly formed blank in the original stone, also several detached blanks and unfinished pipes. Among the finished pipes is one with an animal head in the round at the distal end of the stem, and another with an animal, carved in the round, with its paws resting on the outer rim and base of the bowl. Other examples of carving are shown in a large, symmetrical pestle with an animal

head at the hand-end; and an oval stone with a human face on one side.

Most of the problematical forms that have been noted as coming from this area are represented, and there is a new type, the boat-stone, and another, a spatulate form.

Pigments of various kinds, mostly the inorganic colors derived from minerals and stained earths, were used in numerous ways by the Algonkian peoples. Graphite was one of these, while iron-bearing minerals furnished the ochers which are represented in almost every section of this area.

In connection with the steatite industry a blank for a vessel is shown. In its present form it was found in a quarry, and near it are implements similar to those that were probably used in bringing it to its present shape, and in detaching it from the rock. One of the noted steatite quarries of the East is at Johnston in this state, and the vessels produced by the local Indians were no doubt made of the material from this source.

Pottery vessels, in complete form, are

uncommon. One small jar is shown, and fragments of others, but these are crudely made, and of a decadent type that differs greatly from the usual Algonkian ceramics from this and adjacent regions.

In the under part of Case 287, opposite, is shown the upper part of a large jar, from this state, which is unusual inasmuch as it has animal figures in relief at balanced points below the rim.

The Indians of New England raised much maize, or Indian corn, and as they used stone-bladed hoes it is to be expected that many of these would be found. In Case 229 A is a continuation of the Rhode Island collection, and here is shown a representative series of the stone implements of the region. Among these are hoe-blades, crudely made, with a shank to which a handle could be lashed, and another type, somewhat thinner than the first, with notches on the sides to facilitate fastening the handle. Notched and grooved stones were used for many purposes, some of which are obvious, and others problematical. The usual notched

net-sinker is represented, as are the grooved axes, and other grooved stones which may have been used as loom-weights.

CONNECTICUT

(Case 229 B C)

ANOTHER Algonkian center was the area now known as Connecticut. Throughout the northeastern range of the early Algonkian tribes there was, naturally, a general uniformity of types as regards the utilitarian implements. The stone axes followed the same lines with, of course, local modifications; the gouges and adzes were similar, although in some sections those grooved for hafting appeared in numbers far above the average of the other sections—this is true of Connecticut and Massachusetts, some of them having projections above the groove, others embellished with carved animal heads.

Two interesting carvings of native workmanship are in this exhibit. One is in the form of an ornament with a human face as the central figure, the other is an outline

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carving in slate and probably represents a dolphin. Although unusual, both types are known from other parts of the North Atlantic area. Through the medium of exchange and barter there was an unceasing interchange of materials between the neighboring tribes, and distance or natural barriers seemed to impose few restrictions upon this commercial side of their nature. Thus intrusive objects are often found, as instanced by the carving in the form of a human figure, which in type, character of material, and general technique shown in the handling of the work, proclaim it to be of Southern type, and probably of Southern origin.

Both stone and pottery pipes are shown, those of the former material being of typical Algonkian form, whereas the others, especially the one having a human face in relief on the front part of the bowl, are suggestive of Iroquois forms. Pottery vessels are seldom found, only four entire jars being represented in the Museum collection. Two of these are of the usual jar type, but the others are most unusual, yet of

typical workmanship and treatment. They are cylindrical in form, and the ornamented one shows the decoration so often seen on Algonkian pipes.

Bone implements were common, but, owing to the fact that very little work has been done in refuse and shellheaps, few are available in museum collections. The continuation of the culture responsible for the semilunar knives is shown by examples from this state.

CANADA: IROQUOIS OF ONTARIO

(Cases 230 C, 287 C)

THE Iroquois region in Ontario and New York state presents a more definite culture area. Owing to the fact that many of the prehistoric sites were occupied for a considerable period after the arrival of the whites, authenticated material is available for comparison, and, as archeological investigations have been carried on in these old towns and cemeteries, it is possible to attribute the materials thus found to the tribes who were responsible for their manufacture.

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At the time of the conquest the Iroquois area in Ontario was surrounded by Algonkian tribes which at an earlier period had occupied the entire region. It included practically the entire St Lawrence valley, the Lake Ontario and Lake Erie basins, the southeastern shore of Lake Huron, and the Georgian Bay region. This group of the Iroquoian peoples embraced the Hurons, the Tionontati or Tobacco People, and the Neuter Nation, the latter tribe extending southward to the Niagara frontier.

The ancient sites of the Hurons and of the Tobacco People have not been sufficiently studied to warrant a segregation of the material that has been found in this region, but, owing to the fact that the greater part of the Neuter specimens are the result of excavations in village-sites and cemeteries known to have been occupied and used by that tribe, it is possible to speak of their productions with reasonable authority.

The burial customs of the Neuters were similar to those of the other Iroquois

tribes. Inhumation in single graves was a common form, but they often resorted to collective or communal burial, the bones being separated from the partially decomposed flesh and wrapped in bundles until a time was set for a ceremonial interment, when the bones of many individuals were deposited in a common pit. These ossuaries at times contained the bones of more than a hundred persons.

The specimens in the Ontario Iroquois exhibit are from the area occupied by the Neuter Nation, the Hurons, and the Tobacco People, but, as already stated, it is impossible to segregate the objects with the exception of some of the Neuter specimens which are known to have come from properly identified sites.

The pottery pipes of the Neuters show a wide range of forms, from the usual trumpet type with very little decoration on the bowl to those having human or grotesque faces on the bowl surface nearest the smoker. Many of the stone pipes are of a flattened form and made of dolomite, a dull-yellow stone, having the surface polished or embellished

with an animal form carved in the round on the bowl.

The pottery vessels are semi-globular in form and many of them have a single rim projection. Occasionally a jar of ovoid form is found with two balanced projections. All of the perfect vessels in this case are from the Neuters and present most of the forms known from this tribe.

The preservation of objects made of bone and antler in many of the pre-contact sites is remarkable. Among the known productions of the Neuters and used by them to a greater extent than by any of their neighbors is a tube made of bone, much larger than the ones usually employed for necklaces. Some of them are plain, but the majority have incised designs. Other objects of bone that are shown in this case, some of which are from the Neuter cemeteries, are the combs with figures carved in the round on the upper part, a harpoon point, a gorget, in process of manufacture, made from a section of a human skull, a rattle made from the shell of a box-tortoise, spoons, awls, and needles. In making stone implements of the chipped

variety flakers of antler were used, the small form, here shown, being employed in connection with the finer or secondary chipping such as the finishing of arrow-points or spearpoints. Arrow-straighteners of antler also were in use by the Iroquois of this region.

The utilitarian implements of stone are of the typical Iroquois forms of this area, the beveled adze-blades being in evidence; also a double-pointed stone that was no doubt used as the blade for a warclub. It will be noticed that the stone gorgets and gouges so common in the nearby Algonkian sites are not represented, as they are not a part of the Iroquois cultural equipment. The contact objects, in the form of axes and other metal implements, are from the later historical sites.

In Case 287 C, which is directly opposite, is shown a segregated collection of Neuter material. A glance at this exhibit shows that ornaments of shell were made in a great variety of forms. Shells of the busycon and similar species from the South Atlantic and the Gulf of Mexico were obtained through

trade; from the columellæ of these large conchs, long tubular beads were cut, and from the sides, masks, animal figures, pendants, and other ornaments were fashioned. Wampum and a variety of other shell beads, especially the flat, circular form, were used in great numbers. Beads and ornaments made of catlinite and other stones were used, but not in quantity. The square-sided stone beads are of interest, as they represent a type that is unusual in North America.

Carvings in stone representing human heads, and a miniature mask, exhibit skill, but most of the stone pendants are rather crude in workmanship.

Objects made of native copper are not common, but the large axe, which was no doubt used in ceremony, shows the laminated surface which is typical of pre-Columbian native copper work. This form of celt-axe is of the type whose normal range is from Tennessee to the Gulf of Mexico. That it is an intrusive specimen seems probable. In form it is not unlike the copper axe found in the Nacoochee mound in Georgia, and as the large conchs were obtained from

the South, and as the shell masks are similar to those found in Tennessee, it is not at all unlikely that this specimen is of Southern origin.

Objects of wood are extremely rare, but occasionally utensils fashioned from this material, such as the ladle bowls, are preserved.

The arrowpoints are of the typical triangular Iroquois form, but many of the scrapers present a serrate edge, which seems to have been a variation characteristic of this nation.

From the historical sites come a great variety of glass beads, the range of forms and colors showing the Indians' fondness for this particular barter medium.

CANADA: ALGONKIANS OF ONTARIO

(Cases 230 B, 287 G)

THE Algonkians of Ontario next claim our attention. The area occupied by these tribes included the greater part of Ontario, the Iroquois having but a narrow section in

the southern part, and this only in the late prehistoric period. The tribes responsible for the artifacts here shown are not known. Very few identified sites have been explored, and, owing to the occupancy of the same site by different groups at perhaps widely separated periods, it is difficult, with our present knowledge, to assign the different artifacts to their proper sources.

As regards the variety of objects made of stone, the Algonkians of this region were far in advance of the Iroquois. The chipped arrowpoints are stemmed, which is in strong contrast with those of the neighboring Iroquois. The majority of their pipes were made of stone, the range of forms being shown by the specimens selected for exhibition. Among the pipes will be noticed one of the platform type, made of black stone and highly polished. This form probably has its origin in the so-called "Mound Builder" culture, which will be described in connection with the New York Algonkian exhibit.

Gorgets of the one- and two-perforation varieties and in a number of sizes and forms

are displayed. This is a typical Algonkian production, and many of them are found in this particular area. The bird-stone is another creation of this culture, and in this region is represented by enough variants to convey an idea of the wide range of forms that are represented under this head. Their use is problematical. Numerous suggestions have been made, but nothing definite has resulted from them. Beauchamp thinks that they might have been employed in games, as totems of tribes or clans, or as talismans connected with the hunt for water fowl, and he also says, "It seems better to class them with the war and prey or hunting fetishes of the Zuñi, some of which they suggest." Gilman says that they were worn on the head by Indian women, but only after marriage. The perforation at either end would seem to indicate that they had been fastened to some other object. Parker advances suggestions along this line of deduction, and to the effect that they may have been used on helmets or headdresses; attached to the wooden base of roach spreaders; worn in the middle of the crest

of hair; on a calumet; as a fetish on a bundle of arrows, or as a canoe ornament. An Ojibwa Indian of Byng inlet, Georgian bay, which is in this area, told Mr Orchard, of this Museum, that she had used similar bird-stones as knife-handles and that they were in common use among her ancestors. In seeming verification of this, Parker says, "Schoolcraft thought bird-stones were parts of the handles of knives, and indeed they do bear a resemblance to certain Labrador forms made of wood."

Boat-stones, tubes, and bannerstones were produced in limited numbers by these Indians, and the slate knife also occurs. Many of the usual Algonkian forms in stone are represented, including the gouge; and there is one weapon, similar to that shown in the exhibit of the Iroquois of Ontario, which has been identified by comparison with an old ethnological specimen collected in eastern United States prior to 1743: it is a warclub, or tomahawk, with a wooden handle covered with a mosaic of wampum beads and with a stone head, simi-

lar to the one here shown, attached to the upper part by means of thongs.

Objects in the form of beads and knives of native copper are shown, the knives being of the type found throughout the copper-bearing region of the Great Lakes.

The vessel fragments illustrate the decoration of the native earthenware, the designs being principally on the outer rim. Perfect vessels are scarce. One restored jar showing the pointed base, so typical of jars of Algonkian manufacture, is displayed in Case 287 G.

NEW YORK ALGONKIANS

(Cases 230 A, 231 A B, 232 A, 287 G)

OWING to the fact that the greater part of the New York Algonkian material exhibited is from the northern and western parts of the state, it will be found to be similar to that from Ontario. Large chipped blades are numerous. Gouges also are well represented, one type being unusual: it is shown by the specimen having two deeply cut grooves across the handle end,

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these grooves having been added to facilitate hafting. The implements of stone are, as a rule, of the usual Algonkian forms, and include grooved axes, pitted hammerstones, pestles, grinding and smoothing stones, net-sinkers, weights, sinew-dressing stones, and slabs which were used for grinding and sharpening points of bone implements. Both the grooved axe and the celt-axe were used by the Algonkian tribes of this region, whereas the Iroquois used only the celt type. Tubes, of the finely finished type, bird-stones, and bannerstones show slight variations, but are similar to those from across the border in Canada. The tubes present another cause for conjecture. The amount of time required to bring them to their ultimate condition of perfection is indicative of some particular use which aroused the skill of the artisan, and a desire for perfection. Such exhibitions of cultural refinements generally centered around objects of a ceremonial nature. It has been suggested that these tubes were used in the treatment of the sick, especially as sucking devices by means of which evil

spirits might be expelled from the body of a patient, or as cupping-stones. They may have been employed as cloud-blowers, whereby smoke was blown in the directions of the sacred regions; and their use as pipes, for smoking or as whistles, are among the other suggestions that have been made.

The fine series of ground slate knives and spearpoints again brings up the question concerning the origin of this intrusive element. In speaking of the people represented by this culture, Parker says, "They may have been Eskimoan, they may have been Algonkian tribes intermarried with the Eskimo, or they may have been Algonkian tribes culturally influenced by the Eskimo." It is impossible to discuss this culture at length, but throughout the state there are sites, containing unusual material, which were evidently occupied in very early times, and it is on some of these sites that the semilunar knives made of slate, and double-edge knives and projectile points of the same material, are found.

The presence of bell-pestles suggests a more western culture, and this introduces

another problem in connection with the early period in New York state.

In this area, particularly west of Genesee river, are mounds and accompanying village-sites occupied by a people who have been classed as "Mound Builders." The great mound culture reached its highest development in Ohio, and the general mound question will be discussed more exhaustively under that area. Suffice it to say that recent investigations seem to prove that the builders of many of these mounds were ancestors of well-known existing tribes whose material culture is represented by certain recognized forms among which are the bell-pestles and the platform pipes.

Objects of bone are not so plentiful as those from Iroquois sites, but of the many implements made of this material, those especially worthy of notice are the large harpoon-points. Short, thick flakers made of antler were used, and two of these are exhibited. Carvings representing the human face, except when employed in the embellishment of pipes, are seldom found in this part of the country; therefore, the one

representing a face, which came from the southern part of the state, is of interest. The copper spearpoints are of the same type as those from Ontario, and are not uncommon, but adze-blades of native copper are more rare.

The continuation of the New York Algonkian exhibit is shown in the next case (231 A B). Here may be found more of the general objects of utility, also two large chipped stone blades, and a series of gorgets and pendants.

The pipes are of stone and pottery, the forms adhering to the general Algonkian technique of this region, with the exception of the one showing an extension or projection below the bowl, and the platform or monitor pipes of the so-called Mound Culture, which, however, seem to have been used by the later Algonkian tribes of this region. The pottery pipes are often plain, but many are ornamented with an impressed design, which at times shows very delicate treatment.

Pottery vessels are displayed in case 232 A. The New York Algonkian vessels are

normally of distinct form and decoration; but some of them, although of Algonkian manufacture, show certain modifications due to Iroquois influence. The typical jar of this culture has a wide mouth, slightly tapering rim, and a pointed base. The body portion generally presents a mass of impressed lines which were sometimes made with a cord-wrapped paddle; others have an indefinite stamped or incised ornamentation. The typical jar has no overhanging rim or collar such as was developed to such an extent by the Iroquois. The decoration was generally confined to the rim, but sometimes extended over the shoulder portion to the upper part of the body. The designs were crudely executed, lacking the firmly drawn lines seen on pottery of Iroquois make. They were drawn in the plastic clay with pointed sticks, bone awls, and, at times, impressed line decoration was produced by means of a shell edge, a cord-wrapped twig, or with the fingernail.

The jars exhibited show those of typical form, also others presenting the influence of the Iroquois. These are noted in the

labels, and the rounded bases of the latter type with the elaborated rim portion show wherein the external influence has affected the normal product. These are, primarily, cooking jars.

In Case 287 G is section of the upper part of a very large jar showing typical Algonkian treatment.

For more specific information relating to the New York Algonkians, the reader is referred to *The Pre-Iroquoian Algonkian Indians of Central and Western New York*, and *An Ancient Algonkian Fishing Village at Cayuga, New York*, published by the Museum.

SCHLEY AVENUE

(Cases 231 A B, 232 A)

SCHLEY AVENUE is situated on Throgs Neck, Borough of the Bronx, and is therefore a part of New York City. The Indians who occupied this particular section were a small tribe of the Wappinger confederacy known as the Siwanoy.

The Museum expedition that carried on

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explorations in this site found an extensive shellheap, also many pits, and a few burials. Although occupied by the Indians in the early part of the historic period, it must have been for a relatively short time, as comparatively few objects of European origin were in evidence. One of the Museum publications describes the explorations in detail.

The implements are of the general Algonkian type. Many bone awls were found, also arrowpoints and flakers made of antler. Pendants made of animal teeth and a shell bead were to be expected, but the presence of two cups made of shell is unusual, as these are the first to be reported from the tide-water region of New York. The triangular arrowpoint of brass was probably cut from a kettle obtained from the Dutch, and the coin, which is an English halfpenny bearing date 1729, shows an even later period and probably has no bearing on the Siwanoy occupancy. The pottery from the shell-heaps, with the exception of the upper layers, is of an archaic Algonkian type. In this case are shown the upper parts of two

jars, one of which shows an ornamentation formed by the edge of a scalloped shell; the other is of pure Iroquois type, with the typical conventionalized face at the angle of the rim. In the New York Algonkian exhibit in Case 232 A are shown two jars, and the rim of a third, from this site. Although of Algonkian manufacture, the Iroquois influence is apparent. The rim section, however, with the impressed line decoration about the neck, is of true Algonkian type.

PELHAM BAY AND WESTCHESTER COUNTY

(Case 231 A B)

THE Pelham Bay and Westchester exhibits present no unusual conditions or forms of artifacts. The Algonkians of these sections were evidently the same as those of the Throgs Neck area, and therefore were governed by similar influences.

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LONG ISLAND: PANTIGO

(Case 232 B)

LONG ISLAND was also Algonkian, and the various village-sites and cemeteries that have been discovered and explored have added much to our knowledge of the material culture of the tidewater Algonkians of this part of the state.

The Montauk cemetery situated at a place known as Pantigo Hill, two miles east of the present Easthampton, has preserved many objects in the way of late native productions and early contact objects. The period of occupancy, as presented in a Museum publication, is shown by a glass bottle and two English coins. The bottle is of English manufacture and has the name "Wobetom" scratched on the shoulder portion. This name proves to be that of one of the Indians who signed an indenture in 1657 and another in 1683. The coins bear the date of 1728. If the name on the bottle is that of the chief entered in the records, and the body with which it was found is that of the same chief, it would seem that

this site must have been occupied from the latter part of the seventeenth century to the early part of the eighteenth.

Owing to the fact that the greater part of this cemetery was excavated by one of the Museum expeditions, a complete record has been kept of the interrelation of native and alien objects as found in the individual burials. Much of the alien material found is similar to that from the Burr's Hill site at Warren, Rhode Island (page 95). Glass bottles, porringers, and other vessels of European manufacture were found, also trade pipes, metal spoons and kettles, knives, lead buttons, thimbles, and buckles. A metal comb, a tubular bead, many small metal beads, and a ring were unearthed, but these were probably made by the natives from sheet metal derived from kettles of alien origin. There were many glass beads, strings of which were preserved and may be seen attached to various objects to which they had adhered. Wampum and other shell beads of native make were associated with those of glass, and long tubular beads and two pendants made of shell were found.

The arrowpoints and paint tell their own story, as do the fragments of bags and other textiles, and the necklaces and other objects that were recovered.

Although of Algonkian manufacture, the pottery is unusual in form and decoration, the line of nodes, with terminal punctate dots, below the rim, and the rounded head-like projection on the rim of the larger one, here shown, being an uncommon type of embellishment.

HEWLETT

(Case 232 B)

THE discovery of archeological sites is often the result of accident. The digging of a cellar at Hewlett, Long Island, revealed a cemetery of what may prove to be a pre-Algonkian culture. Situated in the region occupied by the Rockaway Indians at the time of the discovery, it would be a but natural to expect a village-site of this tribe and an accompanying cemetery, but the artifacts obtained by the Museum expe-

dition show that it was of a much older culture.

Objects of copper predominated, many of those found being shown in this exhibit. Heavy beads made of native copper prevailed, and buried with them were others of tubular form. Some of the beads retain portions of the fiber cord on which they were strung. There was also a copper axe, a gorget, and a bipointed awl of the same metal. Objects made of other materials include the fragments of two large cylindrical shell beads, pieces of tanned skin (no doubt parts of clothing preserved through contact with the copper), and fragments of bark, perhaps the lining of graves.

In a nearby gravel-bed were found two stone gorgets and a stone knife. It will be noticed that these gorgets are very symmetrical; this seems to have been a trait of this culture, which is characterized to some extent by stone gorgets of almost mathematical accuracy of fineness and outline, heavy or massive copper beads, copper implements and ornaments, also chipped blades, often of fine-grain quartz. Some of the

sites have produced pottery, but it is of thick coarse type and devoid of decoration.

There are several localities in New York state, in Pennsylvania, and in Connecticut, where similar sites occur, but whether they really belong to a pre-Algonkian culture or are merely those of a very early group of the Algonkian family whose history and migrations are unknown, must be left for future investigation.

BROOKLYN

(Case 232 B)

IN THIS case is also shown another ornament of copper which was found under the end of Brooklyn Bridge. It is perforated for suspension and was no doubt used as a breast ornament.

LONG ISLAND

(Cases 232 B, 233 B)

IN THE lower part of the Long Island case are objects exhibiting the general material culture of the island. The localities are

given on the labels, and among the groups are several from Brooklyn.

The Long Island exhibit is continued in Case 233 B. The definite Algonkian character of the material is apparent.

Pipes in both stone and pottery, bannerstones, gorgets, pendants, and other problematical and ornamental types in stone and shell, are shown, also axes, both grooved and of the celt type, simple and grooved adze-blades, gouges, and other well-known forms. The pestles show much more care, as regards perfection of form and finish, than do most of these implements from New York state. Near the pestles is a mortar made of sandstone, and a paint-cup cut from a fragment of a steatite vessel.

Objects of European origin indicate the contact period. One of these is a brass arrowpoint, probably made from a portion of a trade pot, which is imbedded in a human arm-bone. The force with which the arrow was driven is indicated by the fact that the point has passed completely through the ulna. Shell arrowpoints of aboriginal man-

ufacture were also used by these Algonkians; one of these, of the triangular form, is shown.

Potsherds show the character of the ware, but a better idea of forms may be gained from the complete vessels shown in the New York Algonkian exhibit in case 232 A.

STATEN ISLAND

(Cases 232 C, 287 E)

AT THE time of discovery all of that portion of land now known as Manhattan Island was in control of Algonkian Indians. Staten Island also was under the dominion of this people, hence in these two sections one may expect to find the artifacts conforming to a certain extent with those of the surrounding Algonkian areas. A general survey of the situation, as shown by the exhibits, will prove this to be true.

The Indians of Staten Island, though far removed from the Iroquois domains, were influenced by the inroads of this progressive and powerful confederacy. The vessels, as shown by the restored jar and fragments of others, are of Algonkian manufacture and type, but many sherds from the island show

the characteristic technique of the Iroquois potters. Some of the arrowpoints are of the triangular form. Many of the other chipped implements are of argillite and yellow jasper, which probably came from quarries in New Jersey.

Pipes are seldom found, although fragments of several made of pottery are in the Museum collections. Engraved stones are exceedingly rare in this culture area, the one shown in the exhibit being a slab of sandstone on which are engraved several figures, some of which are those of people.

The fragments of a drinking cup made from the carapace of a box-turtle show a form of drinking vessel common to this region, complete ones having been found in some of the graves at Tottenville. A skeleton from this cemetery is exhibited in Case 287 E.

CLASONS POINT

(Case 232 A C)

ANOTHER site within the present New York City limits is on Clasons Point in the

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Bronx. This section, like the Schley-Avenue site, was occupied by the Siwanoy, and the material recovered by the Museum expedition is similar to that from the other. The pottery is represented by a series of jar-rims, shown in connection with the general material in this section; and in the New York Algonkian exhibit, in section A of this case, is a restored jar and a rim fragment of another.

MORRISANIA, CASTLE HILL POINT, AND VAN CORTLANDT PARK

(Cases 232 C, 287 F)

OTHER sites within the city limits from which material has been obtained and selections exhibited, are Castle Hill Point (which is near Clasons Point), Morrisania, and Van Cortlandt Park. All of these were occupied by Algonkian tribes, and the material culture is similar to that of the other sites noted. Dog burials are often found in Indian cemeteries, and one of these inhumations is shown in Case 287 F.

NEW YORK IROQUOIS

(Case 233 A C)

AT THE time of the conquest, the Iroquois were masters in the northern New York area, their particular strongholds being in the western and central parts of the state. In prehistoric times their villages were generally situated on hilltops, which were fortified by means of heavy log stockades; later, in many cases, their settlements were in the river valleys.

The Iroquois art in stone did not compare with that of the Algonkian people whose camps and villages are often found in the same localities. This particular line of endeavor had not been developed. Many oval knives and scrapers and triangular arrowpoints were made, the latter being the only form in use among the Iroquois. Bone and antler arrowpoints, and other forms of utilitarian and esthetic character made of bone, were manufactured in great numbers. The pottery industry shows a high and specialized development, many vessels having been in use in all the villages.

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The pipes were usually made of pottery, but stone was also occasionally used.

Skinner, in one of the Museum publications, notes the absence of certain forms of stone artifacts among the Iroquois, as follows: "The absence of certain well-known forms of pecked, polished, and chipped stone artifacts, such as the grooved axe, grooved adze (the long pestle is reported by Parker as occurring in rare instances), the 'plummet,' steatite vessels, the rubbed slate point, bayonet slate, semilunar knife, and stemmed and notched arrowpoints. Native copper articles are almost unknown east of the Huron and Neutral territories." Many artifacts similar to those in use by the Algonkians, such as hammerstones, net-sinkers, mortars, celts, etc., are in evidence, as are beads made of bone, shell, and stone.

In studying the specimens on exhibition, it will be seen that, as many of them are from the western part of the state, they are similar to those from the Iroquois of Ontario. The later village-sites yield many glass beads, but on the same sites may

appear the older shell and stone beads and ornaments. These forms are shown in Case 233 A, and with them are stone carvings, probably made to represent masks, and small human faces carved from catlinite. The latter were personal charms which were carried about by the Indians, the usual practice being to suspend them from a string about the neck.

The pipes show an endless variety of forms ranging from the simple trumpet type, without ornament, to the elaborately decorated ones. Many of the more simple bowls are ornamented with incised or impressed designs; others show elaborations of the trumpet form, geometric types, and effigy forms. Animal and human forms are modeled in the round or in high relief as bowl embellishments, and human faces both singly and in groups of three or more are often seen. Most of the pipes here shown are of pottery, but it will be noted that many of the forms are reproduced in stone. One of these is exceptionally ornate, inasmuch as it has a large human face, with inset eyes of shell, on the front part of the

bowl, the pipe itself being an extreme type, but one that is well represented in the western part of the state.

The pottery presents the most elaborate range of forms and decoration that existed in this part of the continent. In examples from the western part of the state the rim portion is more or less simple, but on the sites in Jefferson county, the old Onondaga region, the decorations are elaborate, the overhanging collars being especially exaggerated. In this case may be seen rim-fragments which show some of the types of rim decoration, including the conventionalized human faces that appear, particularly at the angle portions. In Case 233 C the complete Iroquois vessels are shown, the forms ranging from the eastern to the western part of the state. The technique of the different groups is similar, but there are variations which are illustrated by the vessels themselves, the localities whence they came being shown by the accompanying labels.

Among the bone objects (in Case 233 A) may be seen combs with animal and bird

ornamentation, one with a geometric design, and another having a human figure engraved on its surface. A section of a human skull, forming a fragment of a gorget, shows a peculiar use of human bone, characteristic of the Iroquois. There is also shown a gorget of shell found on an Iroquois site, but resembling Algonkian stone gorgets in form; this is no doubt intrusive, or at least borrowed from the Algonkian culture.

Typical metal objects from the Colonial period include triangular arrowpoints. The triangular stone points, the rounded scrapers, and the beveled adze-blade are typical of this culture, but date from an earlier period. A portion of a cache of chipped stone blades, covered with red paint, shows a practice of which evidences have been found in many localities.

The large stone carving representing a grotesque face was probably made in imitation of a mask in use among the Iroquois, and although of comparatively recent execution, it is of typical Iroquois technique.

NEUTER NATION OF NEW YORK

(Case 287 D)

MATERIAL from one of the western groups of the Iroquois, the Neuter Nation, is shown in Case 287 D. It came from an old cemetery of the Neuters at Kienuka, one of their ancient strongholds on the Niagara escarpment, four miles east of Lewiston. This site is on the present Tuscarora reservation. The great number of objects of European provenience indicate extended contact with the whites prior to the time of inhumation of many of the bodies with which these objects were found. As the Neuter Nation of New York and that of Canada already discussed were one and the same people, it will not be necessary to give a detailed description of these particular specimens.

Shell and metal ornaments at once appeal to one as the outstanding features of this exhibit. The shell beads and ornaments are similar to those in the adjacent case, but the large shell masks, the breast ornament, and the gorget show the fondness of

these Indians for large ornaments made of this material. The drinking cup is also of interest, as it shows a perforation in the lip of the shell for the attachment of a cord by means of which it could be carried on the person or suspended in the home.

The metal ornaments are of brass and copper, obtained, in the form of kettles and other receptacles, from traders, and represent well-known forms, with the exception of the copper tubes, which are unusually large. Rings were commonly used as objects of personal adornment, and one is shown in its original position on a bone of a human finger.

The pipes of pottery and stone exhibited show the forms in use by the Neuters, the smaller stone ones representing the type without a stem, which necessitated the use of a reed. The jar exhibits the one-point-rim type of the Neuters, and has a well-defined line-and-dot decoration which covers the greater part of the body. Other types of Neuter vessels may be seen in the exhibit of the Iroquois of Ontario, Canada, in Case 230 C.

NEW JERSEY: MUNSEE
CEMETERY
(Cases 234 A B, 235 C)

AN OLD Delaware cemetery was excavated by an expedition of the Museum and the results are described in one of its publications. The cemetery was situated on the bank of the Delaware river, near the town of Montague, New Jersey. This was the Minisink country, and investigation proved the site to be one occupied by the Munsee. The cemetery contained many burials with which had been deposited numerous objects that tell the story of this culture. The most noteworthy of these are exhibited in Cases 234 A B, and 235 C.

The majority of the artifacts and ornaments were found with the skeletons, but from the intervening spaces many stone implements were recovered, most of which are typically Algonkian in form. These include axes, pestles, pitted and double-handed hammerstones, grinding and sinew-working stones, hoes, net-sinkers, scrapers, and arrowpoints, the last including both Algonkian and Iroquois forms.

This site was particularly rich in ornaments made of shell; these included beads, of which some are of the long tubular variety, and runtees, or large disc beads having parallel holes drilled from edge to edge. Two necklaces composed of this type of bead, with associated small copper and glass beads, were found in place on the necks of skeletons. Pendants and engraved gorgets also were found, but zoömorphic forms, owing to their rarity, are the most interesting. These represent large and small birds (one of the former being elaborately embellished with an incised line decoration), fish, and animal forms. Some of them show surface disintegration, but the majority are in a good state of preservation.

Relatively few pipes were encountered. Three made of pottery show Iroquois influence and perhaps manufacture, and with one skeleton three pipes made of pewter had been deposited. These are probably of early European manufacture, although Roger Williams states that the Indians quickly learned to cast metals. Two of the

pipes show a plain exterior; but one, which is 18 inches long, is a very ornate specimen, having a decorated band below the rim and the figure of an animal, probably a wolf, seated at the end of a platform-like projection.

Objects of known European origin are brass kettles, bracelets, spoons, bells, thimbles, mirrors, and ornaments made of wire.

Bone and antler were used in the manufacture of implements and ornaments. Bone awls were found, but were not common, and fragments of rattles and cups made from shells of the box-turtle were uncovered. A bone comb, having the figure of a wolf carved in the round on the upper part, was found in this cemetery. With one of the skeletons six bone tubes were buried, as if they had been held in the hand. Antler objects are represented by arrowpoints and flakers.

Owing to the fact that this village was not far from the Iroquois country, and as we know that it was inhabited at a very late date when this branch of the Delawares

was under the dominion of the Iroquois, it is to be expected that the material culture would show the effects of Iroquois influence. This is especially reflected in the forms and treatment of the pottery vessels. Some are of typical Algonkian shape and decoration, others show the true Iroquois refinements, while a third group combines the characteristics of both. The larger vessels are shown in Case 235 C. For the student of the Eastern fictile arts this cemetery has proved to be a storehouse of riches, for there are so many vessels representing a variety of forms and treatment, and numerous variations of the rim and collar decorations.

NEW JERSEY

(Cases 234 A B, 235 C, 286 C E F)

NEW JERSEY is, primarily, an Algonkian area, its most recent peoples being the Lenape or Delaware Indians. That there was an earlier culture is shown by remains of a people whose only tools were those of argillite. Whether they were an unknown

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Algonkian branch or were of entirely different affiliations has not been determined. Early man in America is a problem that has been before the reading public for many years, and it is therefore unnecessary at this time to consider that phase of it presented by the Trenton gravels. The exhibited material shows principally the artifacts made and used by the more recent Algonkians, although objects of argillite, some of which may have belonged to the earlier culture, are in evidence.

In Case 234 A B, with the specimens from the Munsee cemetery, are shown series of chipped implements, and it will be noticed that many of them are made of argillite.

Below the Munsee vessels, in Case 235 C, is exhibited a jar of Iroquois type with broad collar; this jar was found at Greenwood Lake. There is another small jar, of Algonkian manufacture, which was probably a toy. Among the objects of Algonkian origin shown on the same shelf is a spherical stone with a human face

pecked on one side, an adze-blade of copper, and a shell pendant in the form of a bird. The stone carving was found on Minisink island in Delaware river, and was no doubt made by the Munsee whose cemetery, as above described, was on the shore opposite this island.

In Case 286 C, E F, on the opposite side of the aisle, the general New Jersey exhibit is shown. This presents a large series of bannerstones, which demonstrates not only the wide range of forms, but also the various stages of manufacture. One of the earliest processes shows the pecking by means of which the stone was gradually brought to the desired shape, then the smoothing of the surface, and finally the drilling. Certain specimens display a slight depression made by the drill, while others retain the drill-core which emphasizes the fact that a hollow drill was employed. Gorgets also are shown, but these are not found in great numbers. Of the stone pipes exhibited, four are especially typical of this culture area, these being the ones without stems; but the two of the platform

variety are of the type that reached its highest development in certain parts of Ohio.

Antler was often used for knife-handles and for flaking implements, both types being shown in this case.

The climatic conditions of the East are such that very few objects of wood have been preserved. Occasionally the muck of a swamp will act as a preservative and thereby retain the form of perishable implements. Such a one is shown in the canoe-paddle, which is a rare recovery, as very few are known.

In the under part of this case, mortars, pestles, steatite cooking vessels, axes, and other well known Algonkian artifacts are presented. A cache of argillite blades shows these implements as they very often come to light. As a rule these caches contain only a few of the blades, which are not associated with other objects.

PENNSYLVANIA

(Case 235 A B)

IN PENNSYLVANIA we have two great stocks to consider. At the time of the discovery, the Lenape held the eastern part, and other Algonkians may have occupied this area prior to the Lenape advent. The central and northern parts were controlled by Iroquoian tribes which, as in New York and Ontario, probably displaced an earlier Algonkian population.

In Case 235 A B, the Pennsylvania material is shown. Owing to the fact that there is an overlapping of these cultures, and as certain types of implements were produced by both, the segregation has been made only in such instances as were rendered positive by the conditions under which they were found. Many of the specimens are surface finds or are from improperly authenticated private collections, hence the division of the Algonkian and Iroquois objects as presented.

The chipped stone implements show typical forms from both cultures. The second

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shelf in each section contains Iroquois material, the major part being of Andaste origin. The Andaste, Susquehannock, or Conestoga occupied the valley of the Susquehanna, and one of the sites inhabited by them is near Athens, the vessels presented in Section A being from this place. This pottery resembles that of the Erie and Neuter groups; in form it is purely Iroquois, but there are certain features that are exaggerated, especially the decorated collar, which in some specimens represents half of the height of the vessel, and in one instance more than half. Double vessels were also made, one of them being exhibited. The other Iroquois specimens include pipes of pottery and stone, typical triangular arrowpoints, and other objects which are similar to those from the western New York and Ontario sites.

Below the Iroquois exhibit in Case 235 B are the identified Algonkian specimens. Here a new type of pipes is shown—the massive ones with bowls almost at right angles to the stems. This form is typical of the more southern areas, and may

be intrusive. Pottery is represented by two small jars and fragments of others. Many very large cooking vessels made of steatite are found in Pennsylvania, one of them here shown having holes drilled in pairs for use in connection with thongs for strengthening the cracked portions. Picks used in working steatite are plentiful, and gouges, grooved axes, and other typical Algonkian artifacts are well represented.

The general exhibit on the shelves below the Andaste vessels is, in greater part, of Algonkian origin. A few of the specimens may be from the Iroquois culture, and there are trade pieces in the form of iron axes. Worthy of special mention is the stone carving representing a human face, or mask, which was found at the old Delaware Indian village of Wyalusing. Although the lolling tongue suggests the false-face masks of the Iroquois, it probably represents Living-Solid-Face, the woodland spirit thought by the Delawares to be the guardian of game animals. The semilunar knife with a hole drilled in

the upper part, the polished tube which shows the peculiar flattening of the end and the small perforation, the double-pointed blade for a warclub, and some of the unusual types of gorgets and bannerstones, are also worthy of study.

DELAWARE

(Case 286 D)

DELAWARE is a continuation of the Algonkian area, as will be recognized by the character of the material shown in Case 286 D. The grooved axes, adze-blades, the gouges with other Northern forms, show the general characteristics of this culture. The pottery is likewise Algonkian in type, but in the northern part the influence of the Iroquois culture appears.

MARYLAND

(Cases 236 C, 286 G)

THE greater part of Maryland was occupied by Algonkian tribes, with the exception of the northeastern part, which shows one of the southern extensions of the Iroquois.

The stone implements in Case 236 C are mostly of Algonkian types, but one of the pipes is an intrusive piece—the one with a bird's head carved in the round on the projection of the stem beyond the bowl. This specimen has a name in Cherokee characters scratched on the under part of the stem, and the pipe may be of Cherokee origin.

The pottery is similar to that found in Delaware, and is represented by fragments only, complete vessels from this area being rare.

In Case 286 G is exhibited a series of stone mortars from Maryland, and cooking vessels of steatite in process of manufacture. These objects show the method of pecking, cutting, and scraping, also the condition of the exterior of the mass, with its rounded base and crudely formed handles, before the interior part was removed.

DISTRICT OF COLUMBIA

(Case 285 C)

IN CASE 285 C there is a small exhibit of material from the District of Columbia,

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including a grooved axe, arrowpoints, cores, and rejects.

VIRGINIA

(Cases 236 B, 285 E)

AT THE time of the arrival of the whites, Virginia was occupied by a number of tribes. The Algonkians held the maritime provinces, with Siouan groups on the west and Iroquoian tribes on the south. The material which has been gathered from various parts of the state shows a variety of types and forms; these are displayed in the lower part of Case 236 B.

The first shelf of this exhibit is composed mainly of problematical objects, including bannerstones, gorgets, discoidal stones, ornaments of steatite, and cones.

Of the six pipes exhibited, two are in the form of animal hoofs and are possibly of relatively recent manufacture. Another pipe shows a broad, flat stem and is of the "monitor" or platform type often associated with certain Ohio mounds.

An unusual cooking vessel of steatite is also exhibited here; it has perforated handles and a flaring rim, and is of much better finish than the average vessels of this type.

Pottery vessels are rare, very few complete pieces being known. Fragments, however, are found in quantities, especially in the tidewater provinces. This pottery is Algonkian, but the upland earthenware of the southwestern part of the state differs from that of the maritime area, as handles are prevalent and are seldom found in the latter region. This pottery resembles that of eastern Tennessee.

On the bottom shelf of this case are shown utilitarian forms, the grooved axe predominating, and in Case 285 E is a very large vessel made of steatite.

WEST VIRGINIA

(Case 236 B)

As the result of different culture influences, West Virginia presents a wide range of types. Problematical objects are common, and many ornaments are found.

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Shell discs, gorgets, and beads are shown, and several varieties of pendants. Among the latter are three of lignite, or cannel coal, which came from Blennerhasset island. If we may judge by the number of objects found, the Indians of this island must have used this material to a considerable extent. A quartzite axe with collared groove is another unusual type which came from the same locality. The object made of antler, resembling a certain type of bannerstone, is similar in form to those found in numbers in Kentucky.

The pipes are of stone, and several of the platform type are represented. The discoidal stones, gorgets, cones, and bannerstones similar to those of Virginia.

Among the utilitarian objects are adze-blades made of hematite, symmetrically chipped knives, and a remarkably good example of the long pestle.

NORTH CAROLINA

(Cases 236 A, 237 A, 285 E)

NORTH CAROLINA has been occupied by several well-known stocks, including the

Algonkian in the tidewater provinces, the Iroquoian west of this area, the Siouan in the central part, and the Iroquoian again in the west. The location of the various groups prior to the Colonial period is, of course, not known, but the tribes of the stocks mentioned are responsible for at least the major part of the artifacts that have come from this state.

The question of the fictile arts presents so many angles that it is impossible to enter into a discussion of the pottery at this time. The jars and bowl that are exhibited came from the southwestern part of the state, two of the jars being from caves, and the one with a pointed base and impressed decoration having been found in a mound by one of the Museum expeditions and described in the publication entitled "Certain Mounds in Haywood County, North Carolina."

The various cultures that have occupied this state have left many evidences of their proficiency in the art of working stone. Bannerstones are represented by various types, as are also the gorgets and boat-

stones. Several of the latter represent uncommon forms and one in particular has the upper part carved in the shape of a human head. Earplugs made of steatite are a product of the Iroquoian, probably Cherokee, area in the southwestern part of the state, this region being responsible for a number of steatite pipes, especially those with human and animal figures carved in the round on the stems. The pipes in stone and pottery give a general idea of the variety of types that this region affords, the most elaborate being the large duck-shape pipes made of stone which reach the height of artistry in this state and in Tennessee.

The discoidal stones, most of which were probably used in playing the game of chunkey, must have been prized by the Indian, if perfection of form and finish may be taken as an indication. This type of gaming stone was still in use in Colonial times, and the game is described by some of the early travelers.

Ornaments and carvings in stone and shell are well represented, also ornaments

made of native copper, a large plate-shape object of this material being on exhibition. The black celt shown near the copper plate was found by one of the Museum expeditions in a mound in Haywood county, and, aside from the usual arrowpoints and potsherds, was the only artifact that the mound contained.

The arrowpoints and knife made of hematite represent a most unusual use of this material. These specimens are from the southwestern part of the state. The usual range of chipped stone implements from North Carolina is shown in the upper part of Case 237 A, the most striking forms being the large knives and the double-pointed blades which are typical of this region and of Tennessee.

A few of the larger specimens from the state are shown in Case 285 E. They include steatite vessels, stone mortars, a pitted stone, and a large barrel-shape discoidal stone.

GEORGIA: NACOCHEE

(Cases 237 A B, 238 C)

ANOTHER Museum expedition explored the Nacoochee mound in White county, Georgia, situated in the region formerly occupied by the Cherokee. Most of the objects recovered are representative of this culture, the historical contact period being represented by the first four feet of the upper part of the mound; below this level no objects of European origin were found.

The material shown in Case 237 A B represents typical objects from the Nacoochee mound. Among the stone artifacts discoidal stones were the most common, some of these being highly polished; most of these objects were probably used in games. The celt type of axe is much larger than axes of similar form from the northern part of the North Atlantic area, and the examples recovered are of excellent workmanship. No grooved axes were found in this mound, the exclusive use of the celt-axe showing that the life of these Cherokee

reflected in some degree the proclivities of the related Iroquois of the north, also shown in their preference for stemless triangular arrowpoints. Chipped blades and other objects of stone are shown in this exhibit. Shell objects were rare, as soil conditions were not favorable to their preservation. Bone and antler implements and ornaments were not found in numbers, and only one ornament of wood and a fragment of a wooden implement were preserved. The latter is a portion of the handle of a copper axe which was buried with a body at the base of the mound. When found it was covered with the fragment of bark on which it now rests, and so far as known is the only hafted copper axe that has come to light in the United States.

Objects made of pottery include toy vessels, paddles employed in impressing designs on earthen vessels while still soft, animal and human heads used as ornaments on rims of utensils, discoids, discs fashioned from potsherds, earplugs, beads, and pipes. The pipes represent the height of the es-

thetic ability of the Cherokee of Nacoochee. The bowls are of varying shapes, and are embellished with bird and animal heads, and many other forms of decoration; one in particular, found by a former owner of the land, shows a faceted bowl surmounted by a grotesque bird figure. The older stone pipes were not so elaborate, the one made of catlinite and the steatite specimen with long stem having been found in the upper layers of the historic period.

Entire pottery vessels were rare, but thousands of sherds were found, some of which were related and could be assembled, thereby forming sizable sections of jars and bowls. Most of the ware is of the typical southern Appalachian form and style, and is the same as that made by the Eastern Cherokee in the early historic period. The specimens exhibited in this case and in Case 238C show the range of forms and the type of decoration applied to each. The same type of pottery was found throughout the part of the mound that was excavated by the Museum expedition, with the exception of an effigy vase of painted ware, and

a fragment showing similar decoration. The vase had been deposited in one of two stone-box graves, uncovered more than seventeen feet below the surface. These burials and the one with the hafted copper axe represent a different culture, preceding the Cherokee, but similar to that found in central Tennessee. An extended report on the Nacoochee mound exploration is included in the series of Contributions from the Museum.

GEORGIA

(Cases 237 A B, 238 A B)

THE antiquities of Georgia taken as a whole show considerable individuality, although they merge in a general way with those of the adjoining states, which is not surprising when we consider that the Iroquoian Cherokee found in possession of the northern part occupied western North Carolina and eastern Tennessee also, and that the Muskhogean people who claimed the greater part of Georgia had relatives of similar culture in Florida, Alabama, and

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even Mississippi. The Yuchi tribe, constituting the Uchean linguistic stock, was found in the northeastern part of the state.

In the upper part of Case 237 B the chipped stone implements, such as knives, spearpoints, arrowpoints, etc., are shown, and the general material culture objects are exhibited in 238 B. With one exception the pottery vessels on the upper shelf area similar to those from the Nacoochee are and are probably of ancient Cherokee origin. However, in the lower part of Case 238 A are vessels of a more Southern type. Fragments of fictile ware are in evidence in many parts of the state, but there are relatively few complete vessels. Of the pottery pipes many exemplify the well-known Cherokee forms, while others have a flaring stem, a type which, although many examples are found in this area, is more common to the Mississippi valley. Among the stone pipes are several of the massive type with angular stem and bowl, this being a common form in northern Georgia and the adjacent area. Banner-stones, gorgets, boat-stones, cones, and

plummet-shape stones are represented in great variety of forms and materials. Ornaments of stone, pottery, and shell are often found, the long ear-ornaments of shell and the ones with flat, circular ends, frequently being discovered in position at the sides of the heads of bodies with which they had been interred.

The spatulate form of problematical objects is represented by three specimens, two of which are of the thin, broad-bladed perforated type, and the third one of the extreme type, with a long, handle-like projection. The name "spatulate" has been applied to this form of objects in order that the meaningless term "spud," by which it has been known for many years, might be discarded. These objects have been referred to also as axes, hoes, spades, paddle-shape implements, and "spade ceremonials." Some have suggested that they may have been used in stripping bark from trees; that the long-handle form may have been employed in planting corn (the pointed end for making the holes and the opposite end for covering the grain); for skinning animals,

and for dressing hides; in fact, there is almost no end of guesses respecting their purpose, but their actual use is still in doubt.

The discoidal or chunkey stone, the large celt-type of axe, and the bell-pestle, are also common to Georgia. The large stone tablet with serrated edge represents a type of problematical objects often associated with remains in mounds, especially in the South. That they were used in ceremony is evident, but in exactly what way has not been determined. The specimen displayed came from one of the smaller mounds of the Etowah group at Cartersville.

SOUTH CAROLINA

(Case 285 C)

SOUTH CAROLINA was occupied by stocks similar to those of North Carolina, with the addition of tribes of Muskhogean stock in the south and another of Uchean stock in the west and southwest. The material culture of the state was likewise largely similar to that of North Carolina. Stea-

ite was used to a great extent, as shown by bowls, dishes, pipes, and other objects made of this material. The steatite pipe with nine stems is of a type that comes from a rather late period of occupancy. A pipe of similar form and character may be seen in the Tennessee exhibit in Case 245 C.

A selection of material from the Wateree, a Siouan tribe, is exhibited in Case 285 C, but the influence of the more vigorous Cherokee on this waning Siouan remnant seems apparent, especially from the pipes, similar to those from the Nacoochee mound in Georgia. Of special interest is the torso of a human figure of clay, with an elaborate incised decoration. Many fragments of vessels were obtained at the site from which this Wateree material came. One restored jar is shown in connection with the other objects, and in the lower part of the case (285 F) is a splendid complete example of the large, gracefully tapered, paddle-marked cooking vessel which, judging by the fragments, must have been numerous.

FLORIDA

(Cases 238 A, 239 B C, 285 D F G)

FLORIDA was the home of Timuquan and later of Muskhogean tribes, with the exception of a small area in the southern part of the west coast, which was occupied in early historic times, at least, by Arawak from the West Indies; but of these little is known. The fictile art of this area is superior to that of the North and Middle Atlantic regions, and indeed in many ways was as far advanced as that of the Mississippi valley. The earthenware presents numerous forms, and many of the vessels fortunately have been preserved in perfect condition.

In Cases 238 A and 239 B C representative specimens of pottery from different parts of the state are shown. Those marked with the figured stamp or paddle are from the east and north, whereas the vessels bearing engraved and indented designs are of the type common to the western part. According to Holmes, the curvilinear designs and the peculiarly conventionalized

life forms are thought to suggest Middle American influence. That their "spirits" might be released to accompany the souls of the dead, many of the vessels found in graves were "killed" by breaking a hole in the bottom, as shown by some displayed in Case 238 A. Special mortuary vessels, usually small and crude, were manufactured in some portions of this area. In Case 239 B is presented a series of vessels, some of which have the usual impressed line-and-dot decoration; but the series of human, animal, and other forms, in light-colored ware, on the third shelf, is of unusual interest, as it consists of mortuary pieces discovered in mounds in the northwestern part of the state. Mr. Clarence B. Moore, who found and presented to the Museum many of the vessels included in the Florida exhibit, remarks, in regard to the peculiar forms just noted, "A feature in the archeology of the northwestern coast of Florida, in addition to that of the ceremonial 'killing' of pottery, is that almost without exception a deposit of earthenware is found in the eastern part of the mounds,

and that little else was put by the aborigines in the way of a ceremonial deposit, elsewhere in the mound or individually with the dead." In connection with the practice of "forming a basal perforation previous to the firing of the clay" and thus producing "killed" vessels for interment with the dead, Mr. Moore suggests that "probably through this class a further evolution is found, namely, the 'openwork' vessel, having ready-made excisions in the body of the vessel, which often formed parts of the decoration." Vessels of this type will be readily recognized in the exhibit. In Case 239 C a fragment of one vessel shows a human face modeled in relief; and another, a bowl, contains a portion of a human skull, urn burial (as the custom is usually called) being common in Florida. In Case 285 F G a series of large bowls is exhibited, several of them showing rim decorations in the form of the head and tail of a bird.

Perhaps the most interesting of the stone objects is a series of plummet-shape stones, some of them carved in the form of

a bird's head. In this case there is a club-head made from a conch-shell, and a similar one is shown in Case 285 D, where other objects of shell, bone, stone, and metal are exhibited.

The results of excavation by Cushing in the muck at Key Marco, on the Florida west coast, were a revelation to students of Southern archeology. As the material culture of the inhabitants of Key Marco was unlike that of any other known region in the South, some of the main features of the exhibit seen in Case 285 D, are worthy of special notice. The large wooden head-ornament for a canoe, representing the bill of a duck, shows a form that evidently played a prominent part in the ceremonies of this early people, as similar forms in gold and in some of the baser metals, have been found in Florida, and a like conception appears in the pendant-shape stones and in decorations on vessels. The saber, also of wood, with apertures for receiving shark-tooth blades, suggestive of the sword or maquahuitl of the ancient Mexicans, presents a form of weapon unknown in other parts of this

region. The exhibit includes many wooden, bone, and shell objects, but owing to the shrinkage of the wooden pieces when removed from the muck in which they were found, they do not adequately portray their original character. This is shown by the handle of the spearthrower, or atlatl, a weapon used for hurling darts, and by the mask. In connection with the atlatl handle with its one perfect loop is another in process of manufacture, and a foreshaft with shark-tooth blade for an atlatl dart. A perfect example of this implement, such as was used by the ancient Basket-makers of southeastern Utah, is referred to later (page 236).

OHIO

(Cases 239 A, 240 A B)

OHIO has long been noted for the abundance and variety of its ancient remains, especially mounds and other earthworks, at first thought to be the work of some mysterious "vanished race" preceding the Indians. Further study, however, has

established the fact that the "mound builders" were Indians—tribes which, however, had attained a degree of culture superior in many respects to that of the Algonkian and Iroquoian bands found by the whites in possession of this region. Students recognize at least two types of mound culture here, one of which, the Hopewell, reached its height in the Scioto valley, while the other, known as the Fort Ancient culture, centered in the Miami drainage; besides which there are evidences of simpler cultures, some perhaps earlier, some later, in different parts of the state. The mound people, especially those of the Hopewell group, had attained a high degree of technical skill, particularly in the working of copper.

Our collection, in which no attempt has been made to segregate the cultures, illustrates the remarkable variety and superior workmanship which characterize the stone art of Ohio as a whole, qualities seen mainly in the pipes and in the problematic forms—banner-stones, gorgets, bird-stones, and the like. The monitor or platform type of

pipe, especially when bearing animal or human effigies, is characteristic of Ohio, while among the problematic forms the so-called "spool-shape stone" is also typical, although both are sometimes found in the adjoining areas.

The large human head carved of stone is not characteristic of Ohio, however, but was probably made by refugee Delawares from farther east. Many of the chipped implements seen in Case 240 A are made of material obtained from Flint Ridge in Licking county, where extensive aboriginal flint quarries have been discovered.

The pottery does not reflect the same degree of advancement noted in some other manufactures, but resembles in general the ware of other portions of the Ohio-Mississippi area.

INDIANA

(Cases 240 B, 241 A-C)

INDIANA was inhabited by Algonkian peoples only, when first explored by the whites, but during the prehistoric period

it was evidently the home of various tribes whose identity is now unknown. There is evidence, however, that the Fort Ancient mound culture of Ohio extended across Indiana, and it may sometime be possible to define the boundaries of this and in turn to determine the characteristics, relationships, and relative age of other cultures in the state. Certain it is that the Museum collection is a composite one, representing several peoples and periods. The resemblance of the collection as a whole to that from Ohio is quite striking, particularly as to banner-stones, bird-stones, gorgets, and the like; but there are fewer pipes of mound types, although a variety of forms are represented. Bell-pestles appear here as in Ohio, and are quite characteristic of the whole region. Four large chipped blades are also shown, part of a cache of 116 found in the eastern part of the state; and celts, knives, and other implements made of native copper tell of the use of this material. The pottery from Indiana is typical of the Central Ohio-Mississippi area, and shows the usual simple utilitarian

pots and water-bottles, together with some effigy vessels which may have figured in ceremonies. More unusual are the tiny pottery figurines representing bird, mammal, and human forms, a class of objects found also in some parts of Tennessee.

The modeling and general conventionalizing necessary in adapting figures and heads to the neck portions and on the sides of vessels demonstrates the ability of these old potters, and shows the development of the fictile arts in this area. Here may be seen one of the smaller of the human-head jars with the face painted red and with the ears perforated, probably for the reception of ornaments. Adjoining this jar is another, of different type, with a human face modeled in low relief on each side. The fish, frog, beaver, dog or wolf, human, and other types of effigy vessels are self-explanatory, as also are the vessels representing gourds and other natural objects. The shell form, with red interior, on the lowest shelf, is an unusually large bowl of this type.

ILLINOIS

(Case 242 B C)

ILLINOIS also was occupied by mound-building tribes, some at least of which seem to have been related to the people of the Fort Ancient culture of Ohio. There was, however, a special development of mound-building here, exemplified by the great Cahokia mound group in the western part of the state, of which Monk's Mound is one of the largest known, covering a larger area than the Great Pyramid of Cheops in Egypt. What relationship, if any, the Algonkian tribes found occupying the state may have had to the prehistoric mound-building peoples is not known, but the former were probably responsible for some, at least, of the remains of simpler culture occurring in various parts of Illinois.

The stone objects in the collection resemble in a general way those from Indiana, but especially noticeable are the hoes in section B of the case, which occur in two well-defined types, one being short and semi-oval in form, with deeply chipped

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notches for hafting, the other, a much longer and more massive type, devoid of notches. It will be noticed that the blade portion of many of the larger hoes is highly polished from long use. The series of discoidal stones in this case shows several of unusual form.

In Case 242 C is a small exhibit from a mound, including a pendant made from a section of the lower jaw of an elk, covered with a thin layer of copper, while another ornament, in the form of an earplug of bone, is likewise copper-covered. Careful examination of the remaining two pieces will show that they are representations in copper of the carapace of a box-tortoise, even the markings on the upper surface being faithfully reproduced.

The pottery exhibited is similar to that found in southern Indiana.

KENTUCKY

(Cases 242 A, 243 A B, 244 C, 284 C-E)

AT THE time of settlement Kentucky also was occupied by Algonkian tribes, except a

narrow strip on the western end claimed by the Muskhogean Chickasaw; yet, judging from its archeological remains, it must have harbored, like some of the adjoining states, a number of different peoples at various times in the past, among them being mound-building tribes; but these, as a rule, do not seem to have reached the stage of advancement attained by some of the Ohio peoples. The pottery from Kentucky exhibited in Case 242 A is, for the greater part, typical of the Ohio-Mississippi area, and shows the characteristic water-bottles, effigy forms, globular vessels with handles, and a few specimens with painted designs; but there are also several bowls with in-curving rims, made after South Atlantic patterns, which may be attributed to the Cherokee, which people are probably also responsible for the unusually large vessels seen in Cases 244 C, 284 E.

Implements that doubtless served in making the larger jars may be seen on the top shelf of Case 244 C. It would seem that these were modeling tools, and that they were probably used to support the

plastic walls of vessels during the building process; their convex surface, conforming to the curve of the interior part of the vessel, would adapt them for smoothing, and would serve well for supporting the walls during the modeling of the exterior.

Among the pipes found in Kentucky which present a remarkable range of form and embellishment, may be mentioned especially the specimen of black hematite in the form of a bird, and a very large example bearing the carved head of a wolf or a dog. The origin of these massive pipes, many bearing effigies, occurring in eastern Kentucky and the adjoining regions, has never been fully determined, as there is yet no record of their being found in graves or in deposits associated with other objects by which they might be positively identified. It is true that the Cherokee have made effigy pipes of stone within recent years, but these are very small, and the forms and the workmanship are different.

Ornaments made of shell imported from the seacoast are found in Kentucky in great numbers, and include wonderfully

engraved gorgets and masks which exhibit a high degree of skill.

Prehistoric wooden images of human form from this area are almost unknown in museum collections. Similar figures in stone and pottery are not rare, but owing to the perishable character of the material, and to the climatic conditions, even the images of wood that were noted by early travelers have disappeared. The figure shown in Case 244 C was found in a sheltered place in a range of cliffs, and is evidence of the existence of wooden images of a form hitherto represented in museums only by those of pottery and stone. This figure is carved of yellow pine, and the weathering of the face makes it impossible to compare the features with those of some of the more elaborate of the stone figures which it most resembles. When found, one ear was intact and was perforated.

Nowhere east of the Pueblo region, save in Arkansas and Missouri, are found caves whose dryness has so tended to preserve otherwise perishable material as have the caves of Kentucky. Mammoth Cave has

produced a number of articles of early Indian origin, but Salts Cave in Edmondson county has probably furnished more prehistoric textiles, basketry, and the like, than all the other Kentucky caverns combined. Of the specimens exhibited in Case 284 D the sandals are the most interesting. As described in one of the Museum publications, they are of two types, one of which is woven of some coarse fibrous material which may be from the cattail or possibly from husks or stalks of corn. The fine ones show a close-twined weave, the warp and weft being made of slightly twisted wild hemp or fine grass. Specimens of other woven fabrics were found: one of them, very thick, may have been part of a blanket; others are in the form of bags, there being two perfect ones and many fragments. These bags show the twined weave which is similar in technique to that presented by some of the impressions on the base of the salt-pan from Tennessee, later described (page 186). Other specimens exhibited with the sandals show hanks of prepared fiber and individual cords made from the

same material; baskets; vessels made from gourds; reeds, with burnt ends, which were found in bundles and in this form used as torches, and many other objects that tend to throw new light on this old cave-culture of Kentucky.

ALABAMA

(Cases 244 B, 284 G)

THE Muskhogean peoples in Alabama occupied the greater part of the state, but there was a small Uchean section in the northeastern part. The material culture was similar to that of the other Muskhogean areas of the Gulf states. The remarkable copper objects on the upper shelf of 244 B reveal the ability of the mound-building Indians of Alabama as metal-workers. The copper is of native origin, and the work is representative of a prehistoric period when this particular art had reached its zenith, the tablet with the embossed human figure, and the two ornaments with fragments of bone attachments still in place ranking among the best surviving products of the aboriginal North American copper-

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smiths. Another object of native copper, shown on the third shelf, is a thin, celt-shape axe similar to the hafted example found in the Nacoochee mound in Georgia, before described.

In Case 284 G are three stone tablets from this state. Two of them exemplify the more common rectangular form, while the third is circular.

MISSISSIPPI

(Cases 244 B, 284 G)

ALTHOUGH Muskhogean tribes inhabited the greater part of Mississippi, there are certain small sections where peoples of the Siouan and Tunican families obtained a foothold. Mounds are numerous, and in general the material culture, so far as it has survived in archeological objects, is like that of Alabama. The celt type of axe was in use, and several of this sort are of exceptional size. Pipes, boat-stones, discoidals, large chipped blades, and other implements and ornaments are of well-known forms and need not be described.

Worthy of special notice however, is a very large pipe carved to represent a frog, displayed in connection with pottery vessels from this state, in Case 284 G.

LOUISIANA

(Case 244 B)

THE exhibit from this state presents a few of the characteristic forms in pottery and stone, together with one object deserving of special notice—the remarkable polished mace or ceremonial axe of horn-stone. This evidently was first chipped into shape, then ground and polished, and its form, execution, and finish show a high degree of skill on the part of the maker. A number of similar maces have been found in this general region, particularly in Tennessee, but their surfaces, as a rule, show merely the original chipping with no attempt at grinding or polishing. The use of these unusual objects is shown in certain prehistoric drawings of men, evidently priests, who hold similar forms in their hands; these are engraved on several shell

gorgets from this region, and are also shown on some of the repoussé copper plates found in Southern mounds.

TENNESSEE

(Cases 244 A, 245 A B C, 246 A B, 284 F)

THE prehistoric tribes of Tennessee excelled in chipping objects of stone as well as in the manufacture of implements and ornaments of stone, shell, and copper; while in pottery they at least equaled the products of their neighbors. As in many other portions of the Ohio-Mississippi area, we find here a complex condition due to occupancy of the same territory by different tribes during, perhaps, widely separated periods. This makes careful field work necessary before the products of the different cultures concerned may be identified. An expedition sent from the Museum to eastern Tennessee, with this object in view, discovered that the earliest people of the region, of whom traces could be found, resembled the Algonkian tribes of the Middle Atlantic area; these were followed by a people whose relationship could not

be definitely determined, while the latest occupants were undoubtedly Cherokee. The results of this expedition have been published by the Museum in "Cherokee and Earlier Remains on Upper Tennessee River."

The central part of the state has been regarded as Shawnee territory, yet there is some reason to think that the makers of the typically Middle-Mississippi pottery found in this region were Siouan peoples. There is no doubt that a Muskhogean element figures largely in the archeology of some districts also, and we have historical evidence of the presence of a Uchean tribe as well.

Several cases are devoted to the archeological material from Tennessee. On the upper shelves of 244 A are displayed the fictile productions. Here the utilitarian forms of vessels are shown, including jars and bowls, among them being noted animal, fish, and shell forms. One bowl has the unusual rim decoration of four heads modeled in the round. With the vessels are several pottery-modeling tools, and another

implement of pottery, in form not unlike a flatiron, which may have been used in smoothing the mud-plastered walls of the "wattle-and-daub" houses characteristic of the region, or the surfaces of large salt evaporating pans, and perhaps in modeling other pottery vessels. This type of smoother is of relatively rare occurrence, and is seldom found outside of Tennessee.

Among the stone objects in this case are series of tubes and pipes which emphasize the massive character of many produced in this state. With the tubes are two of hour-glass shape, one of them of exceptional size; also one of the narrower forms with a small opening in the flattened end, similar to those from the North Atlantic area.

A continuation of the materials in this case is shown in 245 C. The human-effigy jars and figurines present a wide range of forms and treatment, some of them retaining the original painted designs with which they were embellished. Bowls of human form, with the head, arms, and legs modeled in the round, and the body formed by the

bowl itself, are displayed, together with others showing human and bird heads as rim ornaments.

The pipes are of wide range, foremost among them being the ones fashioned to resemble birds. Some of these are elaborately carved and show the highest degree of perfection; some of the cruder examples are shown in Case 244 A. The origin of the massive pipes has already been discussed (page 175).

Banner-stones, gorgets, bird-stones, and ornaments are shown in Cases 244 A and 245 C in connection with the usual utilitarian objects that are more or less common to this area. The large disc is an excellent example of the unusual chipped stone objects from this state.

The display of pottery vessels, including effigy jars, is continued in Case 245 B, and here also are shown ornaments made of shell, including beads, pendants, ear-ornaments, cups, spoons, gorgets, and masks. The gorgets range from the simple undecorated ones to those of larger size with incised geometric and snake designs. The

more common type of mask is made from the side of a large conch, but the small one, more carefully fashioned, is also typical of this area.

Among the problematical stone objects displayed is a series of the spatulate form of artifacts, a comprehensive series of discoids probably used in playing the game of chunkey, and one of the earliest known of the monolithic axes from the United States. The last specimen, representing in stone an axe of celt type hafted in a wooden handle, formed, with many other interesting artifacts here exhibited, a part of the Dr. Joseph Jones collection acquired by the Museum. A paper describing many of the known monolithic axes has been published in one of the Museum series.

In the next case (245 A) is presented a very thick pottery bowl, implements and ornaments of bone and copper, and examples of the chipped stone objects for which Tennessee is noted. The large knives, the problematical objects of unusual shape, and especially the long, double-pointed, delicately chipped blades, or

swords, adequately display the ability of the stoneworkers of ancient times. Carved human figures of stone tell of an art that no doubt included similar objects in wood, as suggested by the single remaining example from the adjoining state of Kentucky.

The next case (246 A B) containing some of the specimens secured by the Museum expedition to eastern Tennessee, sent out through the generosity of Mr. Clarence B. Moore, shows a continuation of many of the forms referred to. There is exhibited, in addition, one specimen not obtained by this expedition that illustrates the manner in which the Indians of this region obtained salt—a large, shallow, earthenware evaporating pan which (restored) is worthy of close examination. In a number of localities in the Mississippi valley salt was obtained by the evaporation of saline waters, either by means of artificial heat or by exposure to the sun's rays. The walls of the salt pans are very thick, and the plastic clay was oftentimes spread on textiles which, in the present case, have left their impression on the under surface. In

the example exhibited the impressions of several different weaves have been preserved. These vessels are generally found in the immediate vicinity of salt springs.

The remainder of the exhibit from Tennessee is in Case 284 F, where may be seen several large pottery and stone vessels, and massive stone pipes.

MICHIGAN

(Cases 247 C)

MICHIGAN was mainly within Algonkian territory, although the Iroquois region about Lake Erie encroached on it in the southeastern part. Mounds are fairly numerous, and the curious ridged earthworks or "garden-beds" are a characteristic feature.

The specimens from Michigan show a preponderance of Algonkian forms, banner-stones and bird-stones being especially prominent. Old wooden bowls taken from graves are shown in association with copper vessels derived from whites. Among the grooved stone axes are examples of a type

having ridges at the sides of the grooves; this is a form typical of this state and of Wisconsin, as also are the grooved axes with fluted sides, which may have been for ceremonial use.

WISCONSIN

(Case 247 B)

PASSING to Wisconsin we find another area in which the Algonkian culture predominated, the only known sections of the state occupied by tribes of another stock being in the eastern and western parts, where Siouan tribes dwelt.

Wisconsin is especially noted for its numerous mounds, many of them the "effigy mounds" built in the form of animals, while others seem to have been reared for burial, and still others for ceremonial purposes.

Nowhere in the United States was the working of native copper developed as in the region south of Lake Superior. When it is realized that this is the home of the float copper which furnished the Indians

with readily workable material, it is natural that the natives of the region should have devoted much attention to the utilization of this valued product. Copper nuggets were sent, through the medium of trade, to distant tribes, but the greater part of the available metal was manufactured on the spot by the Indians of this state. The character of the work, from an esthetic point of view, was not comparable with that of the South. Beads, pendants, bracelets, earrings, gorgets, and other ornaments were made, however, but the greatest native efforts were devoted to utilitarian objects, as celts, celt-shape axes, flanged adze-like blades, arrow, lance and spear points, drills, needles, pins, fishhooks, and other artifacts such as are represented in the collection.

The stonework, typical of the Great Lakes area, includes grooved axes provided with flutings on the sides, mentioned as coming also from Michigan.

It is interesting to note that in Wisconsin, inhabited largely by Algonkian tribes, are found egg-shape pottery vessels with

pointed bottoms, almost identical in form with the typical Algonkian ware of the Atlantic seaboard, and of the adjacent districts. The impressed decoration seems for the greater part to have been made with a stick wrapped with cord, also a favorite method among the eastern Algonkian tribes.

MINNESOTA

(Case 247 A)

MINNESOTA at the time of settlement was about equally divided between tribes of Algonkian and of Siouan origin, which had long disputed the ownership of the territory. Specimens illustrating certain phases of their material culture are displayed. The pottery is represented by sherds only, but, as many of these are rim portions of vessels, at least a part of the decorated area may be seen, and this shows much of the same kind of decoration as was noted in connection with the pottery of Wisconsin. Objects made of copper are common to this state and are here repre-

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sented by spearpoints, arrowpoints, knives, awls, fishhooks, and a chisel. The pottery and the copper articles are probably of Algonkian origin, the grooved hammers Siouan; but until the archeology of this state has been further studied positive identification will be difficult.

IOWA

(Case 247 A)

THE state of Iowa lies mostly in Siouan territory, although the eastern part, bordering the Mississippi, was held at one time by Algonkians. The general character of the pottery noted under the two preceding states does not apparently extend to Iowa. Two earthenware vessels are shown, one a globular form and probably typical; one kidney-shape, which is rather unusual in this part of the country. Among the artifacts of stone which tend to give an impression of certain phases of the early culture of this state are chipped stone implements, grooved axes, gorgets, and pipes.

AND MONOGRAPHS

PROCEEDING westward we come to the region of the Great Plains and the Rocky mountains, including the states of Oklahoma, Kansas, Nebraska, North Dakota, South Dakota, Wyoming, Idaho, Montana, and Nevada. This vast area, as before mentioned, has not received the attention it deserves, and at present there are not enough specimens in museum collections to do the material culture justice. It was a region of shifting habitations, a great hunting country, and therefore peopled by a constantly moving population, living a life that was not conducive to the development of esthetic products. As the tribes were mainly tipi-dwelling hunters, the stone hammer was perhaps the most typical household article, being used for driving stakes, cracking bones for marrow, and for many other domestic uses. The exhibits from this area, although not great in numbers, serve to give a fairly comprehensive idea of the range of known types. Siouan, Caddoan, Shoshonean, Kiowan,

and Algonkian tribes occupied the greater part of this area, to which may be added, in the northwest, Shahaptian, Salishan, and Kitunahan peoples.

KANSAS

(Case 247 A)

THE archeological material from Kansas presents no unusual forms. The pottery is represented only by sherds, but these tend to afford an idea of the character of the ware. The implements and ornaments are of well-known types, and show the kinds of materials employed by the natives.

NEBRASKA

(Case 247 A)

THE collection from Nebraska, derived mainly from excavations made near the mouth of Platte river, shows that in this region bone and antler were extensively used by the aborigines, the forms including shaft-straighteners; jaw-bones of deer, used as sinew-workers; shoulder-blades of the

buffalo, which were attached to wooden handles and used as hoes; flakers; awls; and a large section of antler used as a hammer. No complete pottery vessels were found, but the sherds show that the characteristic pot was more or less globular in form, with flaring rim, and was often provided with several loop handles. Decoration when present was very simple, consisting of a few incised lines only, near the rim, while the body sometimes received a decorative finish applied with a cord-wrapped paddle. Some pipes found here are merely slightly bent tubes of pottery, and many of the arrow-points are triangular. The entire vessel is from an historic Pawnee site.

NORTH DAKOTA, SOUTH DAKOTA,
WYOMING, IDAHO, OKLAHOMA,
MONTANA, NEVADA

(Case 248)

THE exhibits from the remaining states of the Great Plains and Rocky Mountains require little explanation, aside from that furnished by the labels. Attention may

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be called, however, to the collection from an ancient site in North Dakota, which may be considered as typical of the northern village-dwelling tribes of the Plains as distinguished from the migratory buffalo-hunters. Of special interest also are the conical pottery vessels from Nevada, which are found, so far as known, in no other region.

WESTERN ONTARIO, TEXAS

(Case 248)

Two districts not represented in the area last considered are shown in the same case. They represent two extremes of the vast region already discussed—that part of the northern country comprising western Ontario, and the other Texas. Pottery vessels from these regions are not well represented in museum collections, hence the examples here presented will be of particular interest to students of aboriginal American ceramics.

AND MONOGRAPHS

MISSOURI

(Cases 249, 250 C)

IN CONSIDERING the states included in the Ohio-Mississippi area, two, Missouri and Arkansas, remain undescribed. In Missouri at least two cultures may be distinguished: a comparatively simple one in the western portion, and a highly developed mound culture in the eastern portion resembling that of central Tennessee, and continuous with that of eastern Arkansas, besides which there are evidences of other peoples in the Ozark region in the southwestern part of the state. None of these cultures has yet been positively identified with the Siouan and Algonkian tribes found here by the first white explorers.

The greater part of the Missouri collection consists of pottery from the mound region, and illustrates the range of forms, the resemblance of which to those of central Tennessee and Kentucky will be seen at once. Many are simple utilitarian water-bottles and cooking vessels with little ornamentation, but there is a fair representa-

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tion of effigy forms, including the human figure, birds, fish, shells, gourds, etc., and a few examples showing decoration in colors. There is also a general exhibit of implements and ornaments of stone found in Missouri, which displays forms generally similar to those from neighboring states; and a small collection of cordage, matting, and similar material from the dry caves of the Ozark region.

The buffalo-bone pierced by a metal arrowpoint, belonging to a later period, illustrates the power, in the hands of a mounted hunter, of the short bow used in this district.

ARKANSAS

(Cases 250 A B, 251 A B, 252 A B C,
253 A B C)

THE archeology of this most interesting state has not been fully elucidated, but there can be no doubt that at least three ancient peoples once made its area their home. In the eastern part, near the Mississippi, lived a mound-building people

which made a great quantity of pottery, in whose decoration figured the more or less conventional modeled forms of men and animals (Cases 250 A B, 252 B C). This ware occasionally was painted red or white, but, as a rule, retained the natural dark color of the fired clay. These people made also massive earthen pipes, and used marine shells for the manufacture of ornaments, their arts as a whole being similar to those of the people before mentioned as inhabiting what is now eastern Missouri, much of Kentucky, and central Tennessee. The collection shown is characteristic. The identity of these Indians is not yet certain, but it is thought that some if not all may have belonged to the great Siouan family.

Southern Arkansas, especially the southwestern corner, was the ancient home of another culture, that of the Caddo Indians and their near relatives, who were also mound-builders. Here an expedition sent by the Museum worked for many months, recovering a large collection, part of which is exhibited in the cases (251 A B, 252 A, 253 A-C). It will be seen that Caddo pottery

exhibits better workmanship than that of the first group mentioned, and that engraved or incised patterns take the place to a great extent of the modeled life-forms and the painting. Instead of the heavy, coarse, earthen pipes used by the previous group, we find pottery pipes of superior workmanship, one form, with delicate bowl and long stem, all in one piece, being unique. In stonework, too, the Caddo excelled, not only in chipping, as the arrowpoints and knife-blades exhibited show, but in carving, as illustrated by the pair of limestone ear-ornaments, shaped to represent the sun. Copper was used to a limited extent in making ornaments. The Museum explorations in this district are described in detail in its publication, "Certain Caddo Sites in Arkansas."

The Ozark Mountain region in northwestern Arkansas was the seat of another culture, the remains of which are found in the rockshelters of the district, some of which are very dry. In such places another expedition sent by the Museum found a large quantity of basketry, mainly of

cane, many textile pieces, including woven bags and fragments of blankets, some wooden objects, stone and bone articles, but very little pottery. The relationships of these people are not as yet fully known, but the greater part of their basketry is similar to that made by tribes about the mouth of the Mississippi, and to the eastward of that region.

Found in a dry cave in the eastern part of the Ozark district was the stone axe of the celt type, still equipped with its original wooden handle, exhibited in Case 251 A. It is especially instructive in that it shows the manner in which most of the stone implements commonly known as celts, or sometimes as "skinning knives," were undoubtedly hafted. In the same case may be seen a hoe consisting of a blade of mussel-shell attached to its original wooden handle by its old wrappings of native cord and strips of bark. This was found under a flat slab in another dry cave near Eureka Springs.

HAWIKUH AND KECHIPAUAN

(Cases 254 A B, 255 A-C, 256 A-C, 257 A B,
258 A-C, 259 A-C, 260 A B)

In the following cases are exhibited collections from the ancient Zuñi pueblos of Hawikuh and Kechipauan, two of the "Seven Cities of Cibola," in New Mexico. These collections comprise some of the results of the Hendricks-Hodge Expedition which was made possible through the generosity of Harmon W. Hendricks, Esq., and are representative series illustrating the culture of certain pueblos occupied before and at the time of the Conquest. The specimens will be described later in connection with the general Pueblo region (pages 245-251).

ALASKA

(Case 261 A)

Most, if not all, of the archeological specimens from Alaska in the collection may be ascribed to the Eskimo, for the pottery receptacles, chipped arrowpoints, and spearpoints, rubbed slate implements, the objects made of bone, etc., are similar

to articles used by that people until recent years. A few spear foreshafts of ivory, however, show a style of decoration different from that usually employed by the modern Eskimo. Most of the specimens were found about old graves, where they had been deposited as mortuary offerings, but some were exhumed from the sites of old-time villages. Judging by the fact that two other cultures still exist in Alaska—those of the Athapascans tribes of the interior and of the Tlingit living in the southeastern extremity—we may well imagine that further work in this vast territory will bring forth much of interest.

BRITISH COLUMBIA

(Case 261 B C)

IN British Columbia there are roughly two districts, one along the coast, the other in the interior, which differ materially in their ancient remains, a fact which cannot be brought out satisfactorily in the exhibit for the reason that most of the material comes from the latter region. As exam-

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ples of the differences that prevail, may be noted the fact that the interior tribes used arrowpoints and knife-blades chipped from flint-like stones, and smoked tubular stone pipes, while the coast people employed projectile points and knife-blades of slate rubbed, not chipped, into form, and apparently had no pipes at all in ancient times. Generally speaking, the interior tribes in their arts resembled those of Washington, Oregon, and northern California, more than they did their neighbors of the British Columbia Coast. At the mouth of Fraser river, however, an extension of the interior culture seems to have reached the sea and have left its traces also on nearby Vancouver island. It is interesting to note that the region covered by the "Interior Culture," including its extension to the coast, is occupied today by tribes speaking Athapascan, and especially Salishan, languages, while the differing coast region includes mainly the territories of Wakashan, Skittagetan, Chimmesyan, and Koluschan tribes.

WASHINGTON

(Case 262 A)

IN Washington is found a certain amount of difference between the ancient remains of the coast and of the interior; for instance, rubbed slate points are found on the coast, but not to any extent in the interior, while chipped points of flint-like stones occur in both regions, being most numerous in the Columbia valley. Many of the celts or adze-blades exhibited are, like so many from British Columbia, made of nephrite and other jade-like stones; while the stone clubs and the figure carved of stone depicting a man holding some kind of receptacle resemble specimens from the same region. One adze-handle of stone is somewhat similar to southern Oregon and northern California forms, while a hand-hammer with a transverse handle carved to represent a bird suggests Alaskan patterns. Especially worthy of note are the large sword-like club of stone and the stone bark-beater resembling in form certain implements of bone or of wood still

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used by the coast tribes in preparing cedar-bark.

The first white settlers found tribes belonging to the Salishan and Shahaptian stocks occupying the greater part of what is now Washington, but there were also a few Chimakuan, Chinookan, Athapascan, and Wailatpuan dialects spoken within its boundaries.

OREGON

(Cases 262 B C, 273 E)

THE prehistoric remains of Oregon, as represented by our collection, resemble in general those of the interior of Washington and British Columbia, and of northern California. Oregon is especially noted among collectors for its minute arrowpoints of agate, jasper, and other beautiful materials, found mainly in the Columbia valley and usually known under the name of "Oregon bird-points." Of special interest also are the clubs made from the bones of whales, of which are exhibited two full-size examples, one of which may well be

prehistoric, while the other, judging from its inlay of blue beads, must represent a period subsequent to contact with white traders.

Similar in form to some native types of club is a stone specimen undoubtedly made by the Maori of New Zealand. When and how it reached Oregon after a long journey across the Pacific is not known, but it is interesting to note that other South Sea Island specimens have occasionally been found along the Pacific coast; indeed, in one of the California cases is exhibited one of them in the form of a Hawaiian poi-pounder found in that state. That it had actually been used by the local Indians is indicated by a characteristic smearing of asphaltum, applied by certain southern California tribes to various articles of ornament and use. Exhibited also is a collection of ornaments found in graves, showing, in the use of sheet-brass and of glass beads, contact with white traders.

Oregon is noted for an abundance of crude sculptures in stone, frequently repre-

senting animals and sometimes taking the form of small mortars or of grooved weights or sinkers, the material in many cases being a porous volcanic stone. Of these the collection presents a typical series. Several forms of implements appear to be peculiar to the state, one being a replica in stone of the wooden wedges still seen among the Indians. These stone objects may have originally been wedges also, but in recent times the natives have used them for extracting from elk-skulls the brains employed in tanning hides. Another curious type is the hand-adze, blade and handle carved from a single stone; while a third is a form of rubbing stone having two projections on the top. Implements of this last class have been used until lately by the Klamath Indians in grinding the seeds of a waterlily for use as food.

In Oregon the white settlers found a large number of small tribes or bands speaking dialects belonging to no fewer than eleven distinct and apparently unrelated groups, the stocks represented being the Shoshonean, Shahaptian, Atha-

pascan, Salishan, Chinookan, Kala-pooian, Lutuamian, Waiilatpuan, Yakonan, Kusan, and Takilman. This condition makes it even more difficult than usual to determine which tribe, if any, of those still surviving, manufactured any particular archeological specimen.

CALIFORNIA

(Cases 263 A B, 266 A B, 267 C, 268 A,
272 E F G, 273 E F G)

IN CALIFORNIA even more than in Oregon the first white settlers found a multitude of small tribes or bands in possession, speaking a great variety of languages and dialects; indeed the distinct stocks or linguistic groups ranged from seven to nineteen, according to the basis of classification. Irrespective of speech, but using as a basis the arts and manufactures of the people, the California tribes of recent years may be divided into three great groups whose products as a whole are quite different. One of these groups occupied the northern extremity of the state; a second

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inhabited the central portion, in fact, most of it as far as the southern extremity, where a third distinct culture was found. The ancient remains of California may be classified roughly according to this grouping; but archeological exploration has revealed in addition special developments on the Channel islands off the southern coast and the adjacent mainland which are not brought out in collections of modern Indian specimens, for the reason that the few surviving natives of the region have long abandoned their ancient arts. This Museum is fortunate in possessing not only a good general California collection, but an especially complete series from the islands mentioned.

NORTHERN CALIFORNIA

(Case 263 A B)

THE culture of northern California, which seems to have reached its most typical development in the northwest corner of the state, exhibits certain features that may be found also through Oregon and Washington and into the interior of British Columbia,

such as the stone hand-hammer or maul resembling a short pestle, the paddle-shape war-club of stone or of bone, and a certain slender and graceful form of tubular stone pipe. There are peculiar local developments, too—for instance, the adze-handle of stone, used until recently by surviving Indians; and in other respects, such as the use of plummet-like stones and of soapstone dishes, a strong resemblance is seen to the rest of California.

CENTRAL CALIFORNIA

THIS extensive region, comprising two-thirds of the state, is the most characteristically Californian of all, and the culture shown by the ancient remains varied but little in the different parts of it. In this region many mounds have been found, used both for burial and for domiciliary purposes, and these have yielded many specimens, as have village-sites, cemeteries, and mountain caves. It was in this district that the famous Calaveras skull, thought to be of Tertiary age, was found,

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and here many implements and utensils of stone have been reported as coming from gold-bearing gravels laid down in the same remote period; but as both skull and artifacts are similar to those of modern Indians of the region, and as the chances of error are great, considerable doubt has been cast on the theory attributing great age to these objects. This region is noted for its fine-chipped points and blades of obsidian, the vicinity of Stockton especially for a delicate, beautifully made sickle-shaped form known as the "Stockton curve," of which a series is exhibited (Case 263 A). They were possibly used as ceremonial scarifiers. A number of shapes of stone mortars appear here, from the simplest onward, of which one of the most artistic in form is the bowl-shape type seen in cases 273 G, 272 E F G; stone pestles are common, and some show unusual length and superior workmanship. The grooved axe, so common in most parts of the United States, is conspicuous because of its almost complete absence in the entire California area. There are exhibited, however, two

specimens of this type, which probably had been obtained by California Indians through trade with Eastern tribes. There are also various beads and other ornaments of stone, as well as objects of unknown use. Pipes are rare in this central area, and when found are usually tubular. Cooking vessels of steatite are not uncommon, however, especially in the northern and the southern parts of the region; but pottery is practically unknown except in the western and southern portions, where a little appears as the result of contact with neighboring pottery-making tribes. Shell was used in making beads, pendants, and other ornaments; while bone was employed for awls, pins, and harpoon-points.

SOUTHERN CALIFORNIA

(Cases 264 A-C, 265 A-C)

THIS region, comprising the arid southern extremity of the state, exhibits a culture as much like the more primitive forms in Arizona as any truly Californian culture. Pottery, absent or rare in other parts of

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California, is the outstanding feature here, and vessels of this material occur in a number of forms and sizes. The wide-mouth examples were employed in cooking and serving food, the small-mouth ones as water-jars, while the very large vessels hidden away in caves served as storage places for seeds used as food by these tribes. Many of the specimens exhibited, especially of the first two classes mentioned, found secondary use as funeral urns for the ashes of the dead, customarily cremated in this district. These urns, found buried in places selected by the Indians as cemeteries, contained not only calcined fragments of bone, but the remains of many articles placed on the pyre as mortuary offerings, including pipes of earthenware, some plain tubular, some more or less bent, with a perforated projection for suspension or the attachment of ornaments, some of elbow form with a small mouthpiece. Fragments of small earthen vessels also appeared, and occasional complete examples; while in stone, arrowpoints, a knife-blade, grooved arrow-straighteners,

pendants, hammerstones, rubbing-stones, paint-stones, and a single short tubular pipe, were found. Above the jars, on the surface of the ground, fragments of metates or grinding slabs of stone were used as markers. Fire had destroyed most of the articles of shell and bone placed with the dead on the pyre, but sufficient fragments were found to show that ornaments of the former, and awls and other implements of the latter material, were used. Fragments of many objects of metal and of crockery obtained from the whites were also found in the urns. It has been thought that the art of pottery-making is not ancient among these tribes, but was introduced by Spanish priests; yet the fact that the ware was and still is made by strictly aboriginal methods, and the fact that pottery-making is an integral part of the culture of certain Arizona tribes, resembling in many respects these southern California people, make it seem probable that some at least of these bands have been potters from prehistoric times.

CHANNEL ISLANDS

THE richest field for the archeologist in California may be found on the Channel or Santa Barbara islands off the southern coast, and on the mainland adjacent, a richness due to the fact that the ancient peoples of this district had developed a culture characterized not only by great multiplicity of forms of utensils, implements, and ornaments, but also by unusual skill in the manufacture of such objects. They had evidently attained a degree of advancement unequaled in the state, and approached only by some of the tribes in the northwest portion near the Oregon border; yet their culture remained typically Californian.

The people occupying this region were not all of one tribe, however, nor did they all belong to the same linguistic group, for the three northernmost islands—San Miguel, Santa Rosa, and Santa Cruz, together with the adjacent mainland—were the home of the Chumash Indians, whose language, once thought distinct from all

others, is now included in the Hokan family; while the southern islands—San Nicolas, San Clemente, Santa Catalina, and Santa Barbara, were occupied by Shoshonean tribes loosely grouped by the Spanish padres under the head of Gabrieleños, when they became dependents of San Gabriel mission. We have then two groups of tribes to deal with—the Chumash and the Shoshonean. At first glance their products as illustrated by our collections seem to indicate that the culture of both groups was about the same; but when we look closer we begin to note differences. In the first place we find that some Shoshonean products are somewhat cruder than those of the Chumash, which is shown, for instance, in the use of inlay, the first group preferring large pieces of shell for this purpose, the second small shell beads. We note also that bone harpoons are rare in the Chumash collections, and when occurring are provided with several barbs, while the Shoshonean islanders had numerous harpoons, but all of the single-barb type. In stone it is observed that the

Chumash used little as compared with their neighbors, who made a great variety of forms. Effigies of killerwhales neatly made of stone were used by the Shoshoneans, probably as fetishes, but were unknown apparently to the Chumash; and the same is true of perforated pieces of steatite bearing rude incised animal figures. Mortars and pestles of stone were few and usually crude among the Chumash, while among the Shoshoneans they were abundant, often beautifully shaped and finished, some pestles ranking among the longest of this material that are known. Other differences appear on futher study.

SAN MIGUEL

(Cases 272 C, 273 C D F)

Viewing the collections from the different islands separately, we come first to the Chumash island of San Miguel, scene of the labors of an expedition of the Museum through the generosity of Mrs. Thea Heye, the results of which have been published under the title of "Certain Aboriginal Artifacts from San Miguel Island, Cali-

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fornia." As before mentioned, the ancient inhabitants of San Miguel turned to bone rather than to stone for the manufacture of implements, doubtless due in part to the fact that suitable materials for many kinds of stonework are not found on this island. The collection presents a large variety of forms in bone, including among others, beads, pendants, ornamental pins, awls, needles, points for arrows or spears, whistles and flageolets. Especially worthy of notice are the mortar made of a whale's vertebra; the long pointed bone object, probably a hairpin, to the large end of which a quartz crystal has been attached with asphaltum; the cylindrical box of deer-bone, with a shell disc set in one end; the tubes and the wand decorated with an inlay of small shell beads set in asphaltum; and the pendants of bone showing patterns composed of small dots in varying combinations.

An unusually large quantity of beads and ornaments of shell was found here, of which a representative collection is exhibited. Especially interesting among

these are the ornaments bearing decorative patterns in shell beads attached with asphaltum, the ornament made of a keyhole-limpet shell bearing a painted design, and the neatly made hooks of shell. Discussion has arisen as to whether these last were actually employed as fishhooks, or were merely ornaments; but experiment has shown that fish can really be caught with them, and hooks of similar form have been used until lately by the Maori of New Zealand and other natives of the Pacific islands. It seems probable, therefore, that many of the California shell hooks gave real service in fishing, but some of the more delicate examples may well have been fishing charms, or even personal ornaments.

Textiles are represented in the San Miguel collection only by a few fragments of aprons woven of sea-grass, found with skeletons.

Among articles of stone will be observed first the circular perforated objects which have been variously identified as club-heads, as weights for digging-sticks, and as sinkers, but which were probably used for a variety of purposes, including those

mentioned. In the under-part of the case we find the mortars, pestles, and stone cooking pots from San Miguel, and in the adjoining case to the right a variety of objects made of stone, including both utilitarian and ornamental forms. Among the chipped implements may be noted especially some pick-like forms used in working steatite, a fine knife still retaining traces of its handle and showing the figure of a cross painted in red, and some arrowpoints, one in particular, that exemplify the flint-chippers' art at its best. Illustrating the penetrating power of the flint-tipped arrow in the hands of a skillful aboriginal Bowman are four human bones in which arrowpoints are still deeply imbedded, or which have been completely penetrated by them, in most cases representing wounds severe enough to have caused death. Still another chipped object of interest is a tiny hook-shape blade of obsidian.

Among the beads, tubes, pipes, and miscellaneous implements remaining, perhaps the most interesting is a neatly finished sword or warclub of stone, with a groove

along the back, which once may have contained an inlay of shell beads set in asphaltum.

SANTA ROSA

(Case 272 D)

THE collection from Santa Rosa Island resembles that from San Miguel, but is smaller, and necessarily more limited as to variety of forms. Notable objects are: a piece of rock-crystal, to which a loop of cord has been attached with asphaltum for suspending it from the person or the clothing as an ornament; several arrow- or spear-points rubbed from slate, and a stone bead inlaid with small shell beads set in asphaltum. Among the articles found here but not on San Miguel are an arrow-straightener of steatite, and several of the mysterious hook-shape stones whose use is unknown, but which seem to belong, on these islands, more to the culture of the Shoshoneans than to that of the Chumash.

SANTA CRUZ

(Case 269 A B)

FROM Santa Cruz the collection includes a larger proportion of stone objects than from either of the other Chumash islands—a state of affairs due perhaps to the fact that it lies nearer to the shore than do the others. The perforated circular stones are particularly interesting, and several have been so carefully shaped into conoid form, and so neatly finished, that it is difficult to avoid the conclusion that these at least were not digging-stick weights, nor yet sinkers, but warclub heads, or something equally important to the natives. The pestles found here are better made than the usual Chumash types, with a decorative ring at the apex like those from the Shoshonean islands; cups of steatite are quite numerous, and there is a fragment of a large bowl-like mortar of Shoshonean type decorated about the rim with shell beads set in asphaltum. Most unusual from the islands, or indeed from the greater

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part of California, are two celts of stone, said to have been found here.

Among chipped implements we find some points showing exceptionally fine workmanship, and a flint knife-blade still in its original wooden handle, to which it is fastened with asphaltum. One arrowpoint imbedded in a human sacrum, producing a wound which alone would have caused death, is exhibited.

In bone the most interesting object from Santa Cruz is a large flat piece cut from a bone of a whale, and once profusely decorated with spots and lines of shell inlaid in asphaltum. Most of the shell beads and pieces have fallen out, leaving only the asphaltum, which itself has disappeared in some places, revealing the grooves and hollows cut in the bone for its reception. Other bone articles are similar to those found on San Miguel and Santa Rosa, with few exceptions, one being a harpoon-head with four barbs, another a slender piece of bone pierced by nine rectangular holes. Other unusual bone specimens are a number of awls with handles of asphal-

tum, and two small cups. The beads and ornaments of shell are similar to those before noted.

SANTA CATALINA

(Cases 270 A B, 271 A B)

SANTA CATALINA, like San Miguel, was explored by a Museum expedition, made possible through the liberality of Mrs. Thea Heye; but this island was a stronghold of the Shoshonean peoples, and the culture, as might be expected, is noticeably different. The collection includes a great variety of articles made of stone, among which it will be noticed that, while there are a few chipped objects of superior workmanship, as a rule the arrowpoints and blades are not so well made as those of the Chumash.

The great variety of stone mortars, dishes, and cooking pots, from the crudest to the finest, is well illustrated by the collection, and a full series of pestles is shown, including one very long one with a decorative ring at the apex—a form apparently characteristic of the Shoshonean

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islanders. Hammerstones, perforated circular stones, and sinkers of various types, appear in abundance, as do flat pieces of soapstone perforated near one edge. Some of these last were doubtless heating stones, used in boiling liquid foods, but others, decorated with crude incised animal figures, were probably made for some other purpose. Among the most interesting of the stone objects are the effigies of the orca or killerwhale, which possibly served as fishing charms; and the pipes, of which we exhibit a variety of sizes and forms, most of them variants of the tubular type, however. The hook-stones of unknown use, and the grooved steatite arrow-straighteners previously mentioned, are also found here. A very rare article from this district is a grooved axe of stone, which must have originated in some distant region. Another unusual feature of this collection is the pottery, of which a number of pieces were found, the types resembling the ware made by the neighboring Diegueño of the mainland, exhibited in Cases 264-265.

In bone we find a rather limited assortment of awls, needles, wedges, beads, and the like, similar to those found on the Chumash islands, but there are also several new forms which seem characteristic of the Shoshonean islanders, such as single-barbed harpoon-heads, flat perforated discs resembling spindlewhorls, and a special form of whistle made from tibia bones of the deer, ornamented with large pieces of *haliotis* shell set in asphaltum, a form which seems typical of the Shoshonean islanders. Bones showing wounds made by flint-tipped arrows have already been mentioned from other islands, but here we find a human sacrum completely pierced by a bone-pointed arrow, the head of which remains imbedded. The ornaments, beads, and hooks of shell from Santa Catalina are similar on the whole to those found on the Chumash islands already described; but the variety is smaller and the workmanship not quite so fine. It is especially noticeable that some of the shell hooks are decidedly larger. Some of the shell beads resemble the purple wampum of Eastern

tribes. Several pieces of basketry and of woven bags have been found here, showing that these people, like most other California tribes, were good basketry makers.

Contact with whites is indicated by glass beads of different sizes and colors, and by a brass or copper bowl, probably of Spanish origin.

SAN NICOLAS

(Cases 267 A B, 268 B C)

THE collection from San Nicolas is even more complete than that from Santa Catalina, embracing most of the forms from the latter island and many besides. For instance, the series of chipped implements from the two islands is very similar, but from San Nicolas we have in addition three chipped knives still equipped with their original wooden handles, and a hook and a snake-like form chipped from flint.

The excellent series of stone mortars from San Nicolas includes one unusually large example, another decorated along the rim with shell beads set in asphaltum, and several small ones bearing decorations

carved in relief. One small pestle bears a similar pattern, and two others show at the apex an inlay of shell set in asphaltum, while still another, although lacking the distal end, is probably one of the longest stone pestles ever found, exceeding three feet.

Pipes of stone are numerous, and while most of them are tubular, some are more or less "bent," introducing a form not found on the Chumash islands. One cylindrical pipe bears a fine incised pattern; and there are several pipes of bone, and one of pottery. The carved stone killer-whales from Santa Catalina do not find their counterpart among the San Nicolas specimens, but in their stead we find small effigies of sea lions and porpoises. The hook-shape stones of unknown use, before mentioned, reach their highest development here, and are often of large size; and we find in addition a number of shovel-shape stone implements, probably used in working asphaltum.

In bone are found a number of new forms also, including a harpoon foreshaft nearly three feet long; some toggle-harpoon heads of distinctly Eskimo type; some whistles with inlay of shell; one flageolet having shell stops; a neatly made object of hour-glass shape, used as a paint-cup; a warclub made of whale's bone, with a head of asphaltum bearing a shell inlay; some fishhooks; two inlaid rings, and a number of fanciful forms in bone, of unknown use. It is especially noticeable that, except for whistles, deerbone was little used by the people of San Nicolas, its place being taken by the more readily obtained bones of birds and of cetaceans. The beads and ornaments of shell are similar to those before mentioned, but there is an exceptionally complete collection showing in different stages the manufacture of the shell hooks, the use of which for fishing and other purposes has already been mentioned. Several pieces of worked wood from the graves of this island may be seen in the exhibit.

SAN CLEMENTE

(Cases 267 B, 268 B)

SAN CLEMENTE also was occupied by a Shoshonean people, and the specimens, as might be expected, resemble those found on the other islands inhabited by tribes of this family. Especially worthy of notice are a large pestle with shell inlay, part of a mortar with similar decoration, the tip of a bone hairpin showing its inlaid head of asphaltum, and a complete rattle of turtle shell with a bone handle, the parts fastened together with asphaltum.

OBJECTS OF FOREIGN ORIGIN

THE grooved axe, celts, and Eskimo harpoon-points found on the islands have been mentioned, but the origin of these is American, although outside of California. There are two objects in the general California collection, however, whose provenience is even more remote, one a stone poi-pounder (Case 268 A) which must have come from Hawaii, another a stone adze-blade (Case 267 C) from some Pacific island

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even more distant. How and when these objects were brought to California is a mystery; but that the poi-pounder, at least, was used by California Indians is evidenced by traces of their characteristic and ever-useful asphaltum, applied as decoration.

THE PUEBLO REGION

THE area occupied by the Pueblo Indians in ancient times has been alluded to in the description of the objects on the First Floor, illustrating the recent Pueblo culture, which should be consulted in connection also with the objects of antiquity from that region. So conservative have been the Pueblo peoples that some of them still retain customs and beliefs that originated in ancient times, consequently it is possible to picture to some extent the life and culture of the Pueblos of old, which on the whole exceeded that of their descendants, especially in their art products and their architecture.

The most important and characteristic of the objects of art of the ancient Pueblos are those of earthenware, which not only

covers a very wide range in form and embellishment, but which shows considerable change from early to modern times, even in the same tribe or group of tribes. Food and water vessels of the earliest period are usually of beautifully corrugated ware or of light-gray or white decorated with black geometric designs, in many cases excellently applied, though often complicated. Frequently both types appear synchronously. Such pottery is especially characteristic of ruins in southern Colorado and Utah, and northern New Mexico and Arizona, and indeed it is found practically throughout the ancient Pueblo region. Sometimes in association with this type of earthenware are found vessels of the same general form and design, but ornamented with a black pattern on a red slip, giving indication of a secondary step, in the coloring of pottery, which ultimately was more richly painted in orange, brown, and black, as by some of the Pueblo women at the present time. Later than the black-on-gray and black-on-red ware a glaze was introduced in some sections, never covering the entire

vessel, but employed as a motive of decoration in patterns generally similar to those produced with non-glaze pigments, and, also like those in the case of the bowls, often with a simple geometric pattern in white on the exterior. The distribution of this class is quite wide, as will be noted by the localities given on the specimen labels in several of the cases displaying ancient Pueblo ceramics. At the time when the pottery mentioned was made and used, the typical cooking and storage vessels, as well as certain other receptacles, were of the so-called indented or corrugated ware, in which the usually thin coils of clay, instead of being smoothed away, were left as embellishment, and indeed sometimes were given fine patterns by pressing with a small tool or with the finger-tips. This type of decoration, finest in the most ancient corrugated ware, gradually deteriorated until ultimately it passed out of use, being superseded by plain or only slightly ornamented cooking vessels, such as are still manufactured. It has been suggested that corrugated ware had its

origin in basketry used as molds, and indeed a few examples of southwestern pottery bear basketry impressions (see page 240). Duck-shape vessels, plain, corrugated, or painted, originally rather lifelike, later so highly conventionalized that wings and tail are mere nodes, if represented at all, are found associated with the oldest Pueblo pottery.

CLIFF-DWELLERS

(Cases 274 A-D, 275 D G, 277 A B)

So far as culture is concerned, the so-called Cliff-dwellers and the Pueblos cannot be separated; indeed a cliff-dwelling is merely a small pueblo built in a recess in the face of a cliff as a means of defense, the more important aggregations of dwellings of this kind having what would seem to have been an undue number of kivas, which were the abodes of the men as well as the center of the ceremonial life of the community. The typical pottery is the black-on-gray, such as that from Cañon de Chelly, Arizona, and from numerous other ancient Pueblo sites, as before mentioned.

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By reason of the dryness of the climate and of the protection afforded by the rocky recesses in which they are found, the articles left by the dwellers in the cliffs are usually excellently preserved, even those which ordinarily disappear through decay, such as woven fabrics, baskets, wooden objects, foods, and work in feathers and fur, none of which, there is every reason to believe, differed in marked degree from those of the Pueblos who in ancient times dwelt on the mesas or in the valleys.

Implements of stone from Utah cliff-dwellings are displayed in Case 275 D, important among which are an axe with its original wooden handle, and a sandal-shape slab used probably as a gauge in stretching the warp of woven sandals, the jog at the toe-end of the stone corresponding with a similar device in cliff-dwelling sandals generally. Earthenware vessels and other objects from cliff-dwellings of Utah are shown in Cases 274 C and 275 G.

Additional cliff-dwelling objects may be viewed in cases 274 A B and 277 A B, from

the Mesa Verde section of southwestern Colorado, where the largest and most important cliff-dwellings are found. The artifacts exhibited are of pottery (with a considerable proportion of jug-like vessels characteristic especially of this area), stone, bone, and shell, the stone implements including a grooved axe attached to its original wooden handle.

BASKET-MAKERS

(Cases 274 D, 275 A-G, 276 A-D)

BEFORE referring more in detail to the artifacts of the ancient Pueblos, we will allude to the remains of an earlier people called "Basket-makers" because of the relative abundance of basketry which they manufactured, and the almost total absence of pottery. Indeed the only unquestioned specimens of pottery found (if fragments of unfired earthenware may be so termed) were among the remains of Basket-makers recovered by a Museum expedition from Cave du Pont in Utah, an illustrated account of which the Museum has pub-

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lished. Other Basket-maker material, from Grand Gulch, in the same state, shown in Cases 274 D, 275 C-G, was collected many years ago, but unfortunately under such circumstances that the archeological value of some of the specimens is still somewhat in doubt.

The remains of these early "Basket-makers" are found in caves, often in cists or with burials. In some of the caves evidences of later occupancy by Cliff-dwellers are found, some of their stone houses having been built over the remains of the Basket-makers. Although many of the implements and ornaments of the Basket-makers are generally similar to those of the Cliff-dwellers, there are certain points of individuality in the two cultures. Most striking among these is the absence of fired pottery from the Basket-maker remains, as before mentioned; next is the use of the atlatl, or spear-thrower, which the Basket-makers employed as a weapon to the exclusion of the bow and arrow. A perfect specimen of Basket-maker atlatl is shown in Case 275 C, accom-

panied with fragments of darts, foreshafts of wood with points of stone, and others with blunt bone tips. Some of the spear-throwers were provided with stone weights attached to the under-part, as in the example shown near the clubs which were found in association with the other weapons.

In Case 275 C also are exhibited beaters made of twigs, used in preparing cotton for weaving and perhaps also for gathering seeds; likewise farming implements, snares, gaming and weaving sticks, ornaments, and other objects characteristic of this ancient and interesting people. In the next section of the same case (D) are a bag in process of weaving, a finished bag of the same class, also spindles, hair-ornaments, pipes, and a wooden flute. As intimated, baskets were made in numbers and in a variety of forms. Some of these are shown in association with gourd receptacles (Case 275 E).

An insight into the character of the Basket-maker caves and of their remains may be had by an examination of some of

the photographs in the wing-frames at the entrance to the East Hall of this floor, and especially by a perusal of the monograph on Cave du Pont.

HOPI AREA; LITTLE COLORADO VALLEY,
ARIZONA

(Cases 273 A, 278 B D)

REVERTING to the ancient Pueblo artifacts, and especially to the more representative selections of materials from various important sites in the Pueblo country, attention will be directed to the polychrome pottery of the late prehistoric and early historic periods of the Hopi of northeastern Arizona (Cases 273 A, 278 B D), and to the vessels from near Springerville and St. Johns in the Little Colorado valley, characterized by black or by black and white geometric patterns on a red slip (cases 272 B, 279 A C D). In several of the cases devoted largely to the display of archaic pottery from Arizona will be observed also typical artifacts of stone, bone, and shell.

SOCORRO COUNTY, NEW MEXICO

(Cases 274 G, 281 A-D, 282 A B, 285 A B,
286 A B)

THE wide distribution of the ancient black-on-gray pottery, before alluded to, will be noted especially by an examination of the specimens from various parts of New Mexico, which exhibit a considerable variety in form. Noteworthy are the black-on-gray, black-on-red, and particularly the corrugated receptacles from Socorro county in southwestern New Mexico, which reached a high degree of perfection; indeed the treatment of the inner surface of many of the corrugated bowls with a black polish, and the ornamentation of the outside sometimes with painted or impressed patterns in addition, are quite exceptional (Cases 281 B, 282 A B, 285 A B, 286 A). The black-on-gray ware from Socorro county shows a considerable proportion of jars and pitchers with handles modeled in the forms of animal bodies or heads, while others are fashioned entirely in the forms of animals and birds (Cases 281 A, 282 B,

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285 A, 286 B). Unique among the pottery of the black-on-gray group on exhibition is a bowl whose outer surface bears the impression of the basket in which it was molded, as well as a painted pattern in black both outside and inside (Case 281 C). Implements and ornaments of various materials, found in association with the pottery from the region referred to, are exhibited in cases 281 B and 286 A, especially noteworthy among the ornaments being part of one covered with turquois mosaic.

MIMBRES VALLEY, NEW MEXICO

(Cases 274 A B, 277 A B C D, 282 C D)

ANOTHER interesting ancient culture area is that of the Mimbres valley, southern New Mexico, which has produced a class of earthenware receptacles remarkable for their painted decoration representing realistic zoömorphic and human figures in great profusion, as well as geometric designs excellently though complicatedly applied (Cases 277 C D, 282 C D). These vessels

are chiefly mortuary bowls that have been "killed" by puncturing the base in order to release the "spirit." A most exceptional ornament from the same area consists of a mosaic of pink stone and turquoise on gum. This, with certain implements of stone and bone, is displayed in Case 277 A B.

CHACO CAÑON, NEW MEXICO

(Cases 280 A-D, 287 A B)

IN the northern part of the state is situated Chaco cañon, with its ruined group of great walled-in Pueblo settlements dating from ancient times. The characteristic pottery is the black-on-gray, and in a single room of Pueblo Bonito were found 114 tall cylindrical vases of this ware with loop handles, of which a few are displayed in Cases 280 A, 287 B. Accompanying these unique vessels were some pitchers with cylindrical tops, and in an adjoining room some ceremonial sticks (Case, 280 D), and a sheaf of reed arrows with wooden foreshafts and stone points. In Pueblo Bonito also were found innumerable other objects

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including wooden flutes, painted slabs of wood, shell trumpets, and skulls of macaws. Some of these objects were associated with human burials, accompanying which were also thousands of worked pieces of turquoise in the form of beads, pendants, ear-ornaments, and inlays for mosaic-work, some of which, acquired by exchange with the American Museum of Natural History, are exhibited. Of the more elaborate ornaments from Pueblo Bonito may be mentioned a brooch-like one of lignite studded with turquoise, a bird of hematite similarly inlaid with turquoise and with shell, a cylindrical fetish of hematite with turquoise bird-wing inlay, and half of a bivalve shell incrusted with turquoise and lignite. One of the most striking utensils from the Southwest, a tall vase-like mortar of stone painted in an interlocking design (Case 280 A), is also from Pueblo Bonito, whose inhabitants, together with those of the neighboring pueblos of Chaco cañon, reached a stage in their decorative art hardly achieved by any other Indians north of Mexico.

Other artifacts from Chaco cañon and adjacent areas, of pottery, stone, bone, shell, and wood, are displayed in Cases 280 A-D and 287 A B.

CASAS GRANDES, CHIHUAHUA

(Cases 283 A-E, 284 A B, 276 E)

IN northern Chihuahua, Mexico, is an extensive group of ancient ruined structures, known as Casas Grandes, so similar to certain Pueblo remains in the United States, both in their architectural features and in the artifacts which the sites have produced that they are properly classed as belonging to the Pueblo culture. The earthenware vessels from Casas Grandes present a wide range of forms and of decoration; most of them are elaborately painted on plain or on modeled surfaces designed to represent human figures as well as mammals, birds, and serpents. A relatively few specimens of this excellent earthenware, showing however a proportionately wide range in form and embellishment, are exhibited.

I N D I A N N O T E S

In Case 283 A will be seen some examples of sandals, basketry, and other ancient objects from dry caves in Cave valley, about 40 miles south of Casas Grandes.

HAWIKUH

(Cases 254 A B, 255, 256, 257, 258 A B,
259 B C, 260, 274 E F)

NOTEWORTHY among the collections illustrating certain phases of early Pueblo culture are those from Hawikuh, New Mexico, a large Zuñi pueblo first visited by the Spanish explorer Coronado with his army in 1540, when doubtless it already had been inhabited for many generations, and which continued to be occupied until 1670, if not for a few years later, when it was abandoned. The excavation of this great ruin was undertaken by the Museum in 1917 through the interest and patronage of Harmon W. Hendricks, Esq., one of its trustees, and has been continued during each successive season excepting in 1922. The ruins of Hawikuh, which was one of the famed "Seven Cities of Cibola" of the

early Spaniards, are situated on the summit and slopes of a tongue-like elevation 15 miles southwest of Zuñi pueblo. Great refuse heaps cover the slopes, and it was in these that the people buried their dead. In addition to the usual inhumation, the Hawikuh inhabitants at one period of their occupancy also cremated some of their dead and deposited the calcined bones in jars, covered usually with bowls, both vessels being broken at the bottom, or "killed." Ornaments and other personal belongings were often burned with the remains of their owners, in the case of the cremations; but in the interments, and especially those of the later period, the dead were buried not only fully clothed and with their articles of adornment, but were accompanied with various food, drinking, and cooking vessels, baskets, etc., and quantities of food, together with such personal belongings as tools, implements, and religious or medicine paraphernalia appropriate to the sex, age, wealth, or position of the departed. Beneath the great refuse-heap that formed the cemetery, walls of

an earlier pueblo, in some places buried 16 feet deep, were encountered; but Hawikuh proper—the historic village—occupied mainly the summit of the elevation and consisted of hundreds of houses, nearly all small but of several stories, surrounding a large dance-court in which was a rectangular kiva, or ceremonial chamber. The lower stories of the dwellings had been filled in and other stories reared on their walls in the process of elevating the height on which Hawikuh stood.

Space forbids more than the briefest mention of some of the artifacts left by the Hawikuh dwellers, including those recovered from their graves. The earliest pottery, found in association with the most ancient houses and burials, was that before alluded to as decorated within (in the case of the bowls) in black or dark-green glaze on a red slip, with a simple geometric pattern in white just below the outer rim. At a somewhat later period the pottery was decorated in both glaze and non-glaze on a white slip, and this ultimately was superseded by polychrome—red, brown, yellow,

orange, white, black, often beautifully blended, all the tones being applied in non-glaze pigments and in a great variety of designs and figures, including life-forms, with a riot of highly conventionalized birds and feathers. This last was the pottery mostly if not entirely made and used when the Spaniards first visited Hawikuh in 1540, and it continued in use until its abandonment 130 years later. Meanwhile, if not shortly before the coming of the Spaniards, the natives revived the glazed decoration, but it was applied far more crudely than in the decoration of their earliest pottery, and was manufactured in considerable quantity at the time Hawikuh was abandoned. Much of this later glazed decoration seems to be an imitation of the earliest ornamentation in glaze, even the geometric patterns in black or green on a red slip, especially in the case of the water jars, being followed, although much more crudely as a rule.

In stoneworking the Zuñis of Hawikuh were by no means adept; indeed the artists were the women, rather than the men.

Although greatly decayed, ample specimens of basketry, matting, and woven cloth to enable study were recovered, as well as implements of wood, ornaments of shell, etc. In tools and ornaments of bone, Hawikuh was exceeding rich, thousands of specimens being recovered, as set forth in a preliminary account of "Bonework of Hawikuh," published by the Museum. Among the more attractive objects of native workmanship are the hair-combs and ear-pendants of turquoise and jet mosaic set in gum on a wooden base (such, evidently, as Coronado described), and a single fragmentary pendant, similar in workmanship but set on a base of shell, dating from an earlier period. (An account of these attractive objects has been published by the Museum.) Having been more or less directly under the influence of Spanish explorers and missionaries from 1540 to 1670, Hawikuh produced a considerable number of objects of European provenience—metal, china, glass, and the like, no doubt dating especially from the time of the establishment of the Franciscan

church and monastery there in 1629. Examples of all the objects referred to will be seen in the cases devoted to the Hawikuh collections, but attention should be given also to the photographs of Hawikuh subjects in the wing-frames at the entrance to the hall. We must leave to the individual labels the explanation of certain unique objects displayed.

KECHIPAUAN

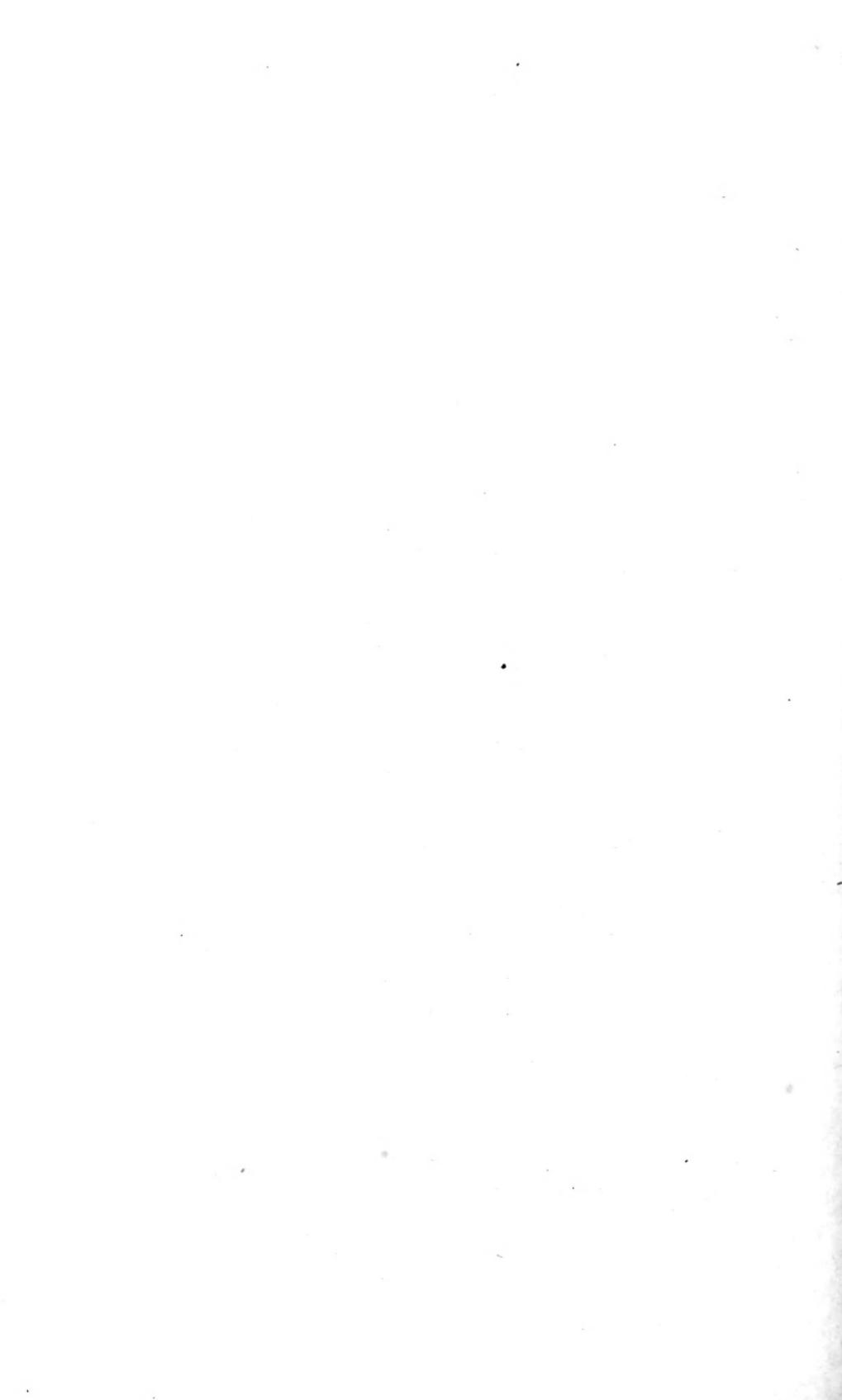
(Cases 258 C, 259 A, 260 B)

THIS ruined pueblo, situated about three miles east of Hawikuh, was visited by the Hendricks-Hodge Expedition and excavations made in its refuse-heaps for the purpose of determining the character and age of the settlement. The results proved that Kechipauan, at which a mission church was built by the Spaniards, was practically identical in its artifacts, including the pottery, with Hawikuh (as will be noted by an examination of the specimens displayed), and was occupied at the same time. As at Hawikuh, objects of Spanish origin were

INDIAN NOTES

found in the village refuse. There is strong evidence that Kechipauan, like Hawikuh, was one of the "Seven Cities of Cibola."







INDIAN NOTES AND MONOGRAPHS

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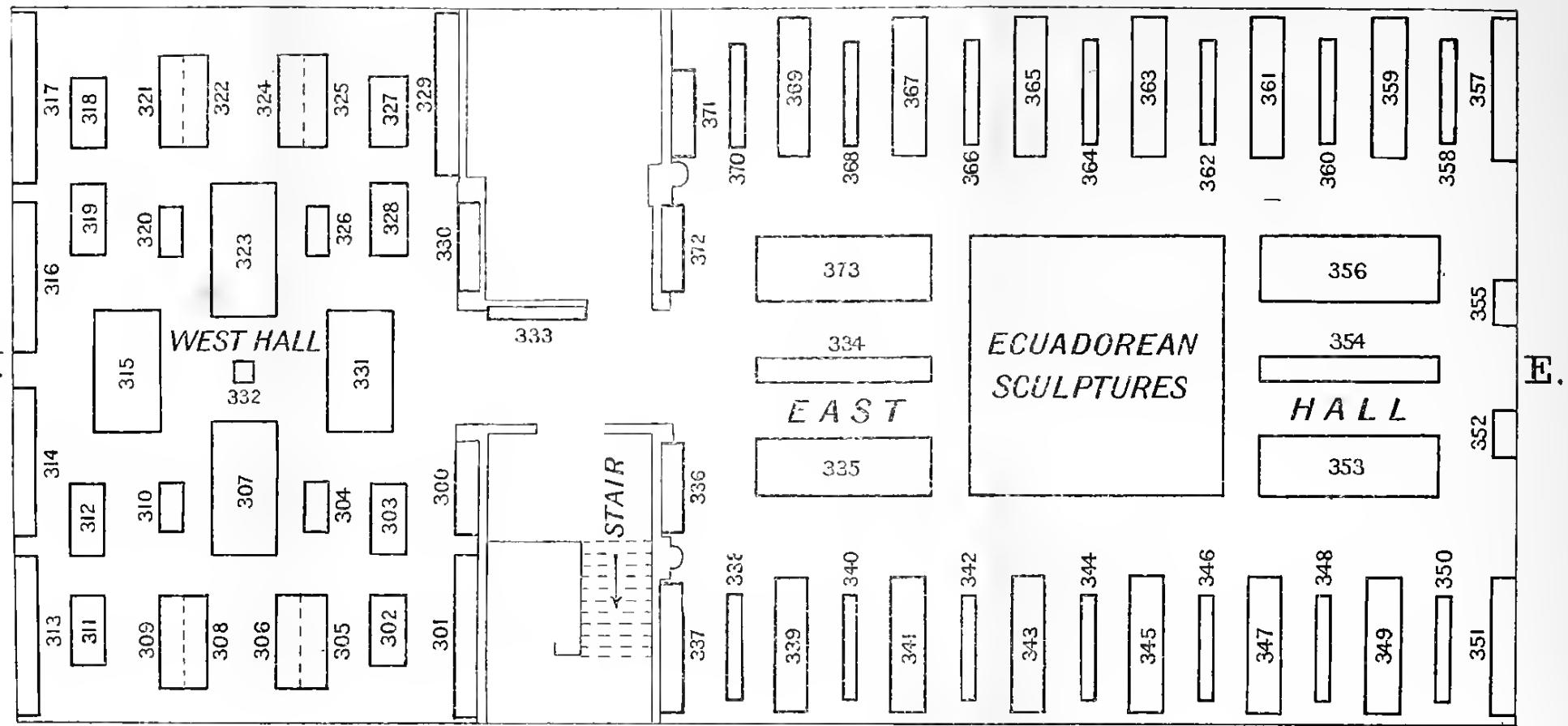
A SERIES OF PUBLICA-
TIONS RELATING TO THE
AMERICAN ABORIGINES

GUIDE TO THE COLLECTIONS
FROM THE
WEST INDIES

NEW YORK
MUSEUM OF THE AMERICAN INDIAN
HEYE FOUNDATION
1922

THIS series of INDIAN NOTES AND MONOGRAPHS is devoted primarily to the publication of the results of studies by members of the staff of the Museum of the American Indian, Heye Foundation, and is uniform with HISPANIC NOTES AND MONOGRAPHS, published by the Hispanic Society of America, with which organization this Museum is in cordial coöperation.

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PLAN OF THIRD FLOOR

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INDIAN NOTES AND MONOGRAPHS

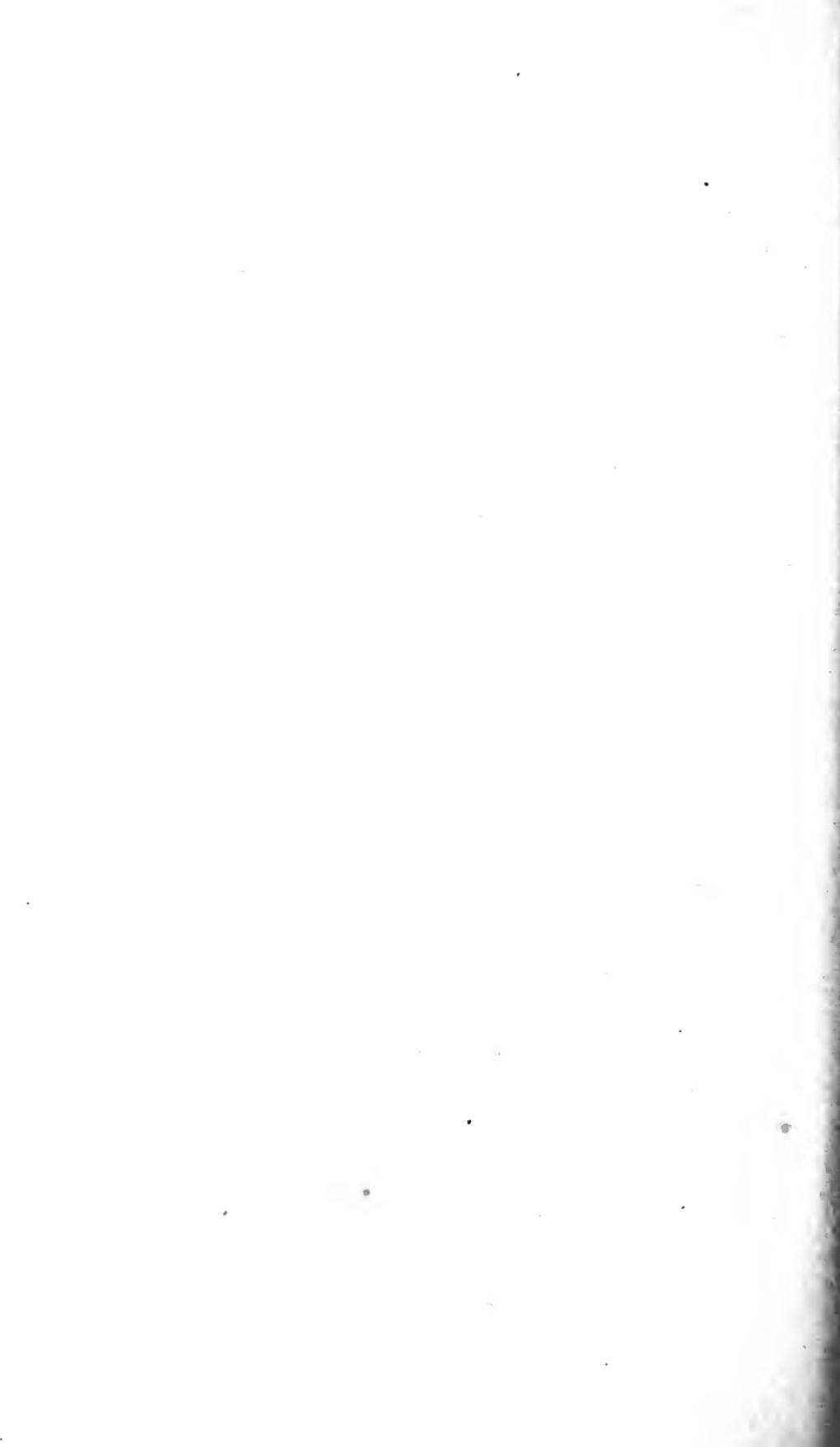
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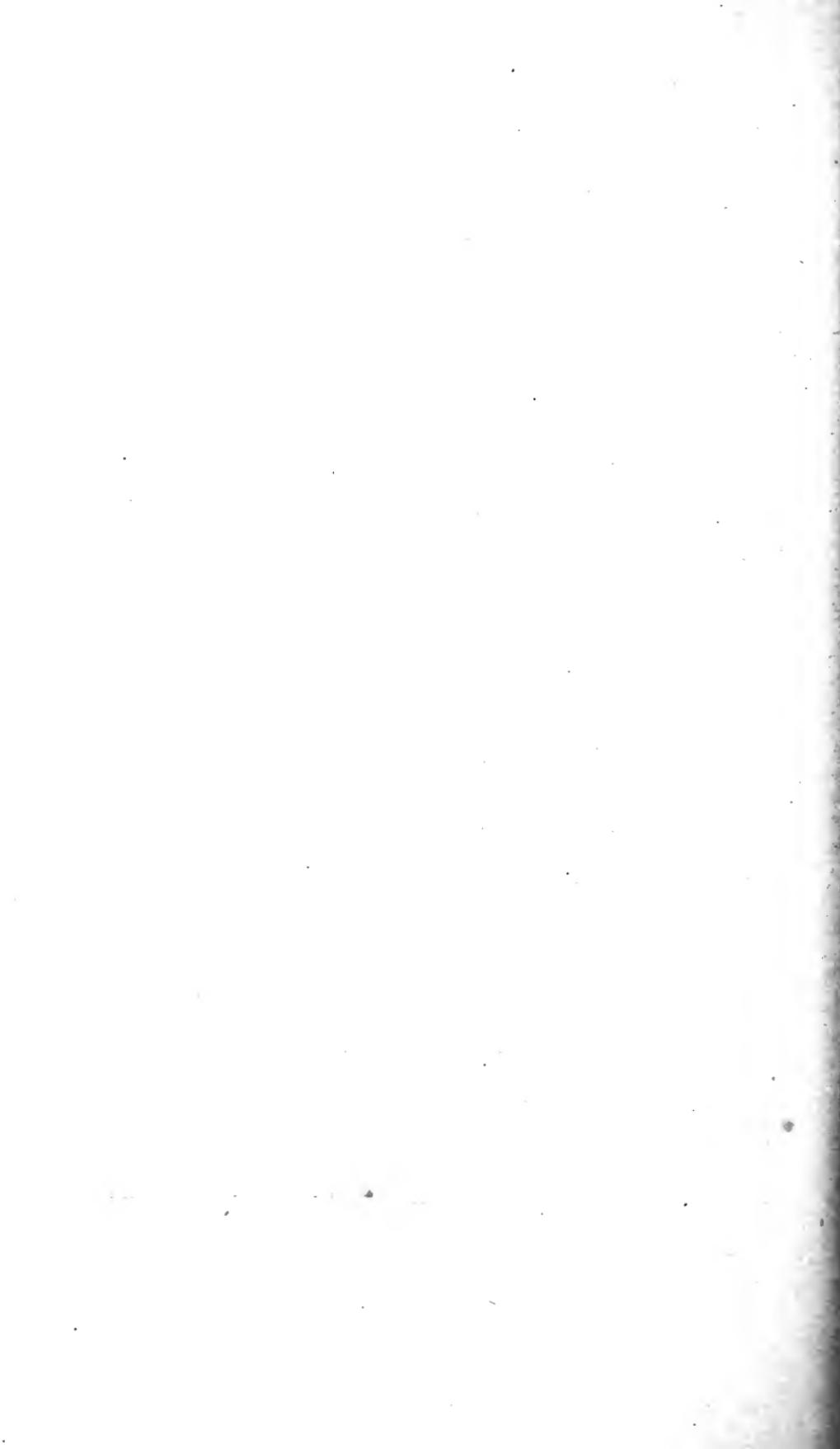
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INDIAN NOTES



THE WEST INDIES

NATIVE POPULATION

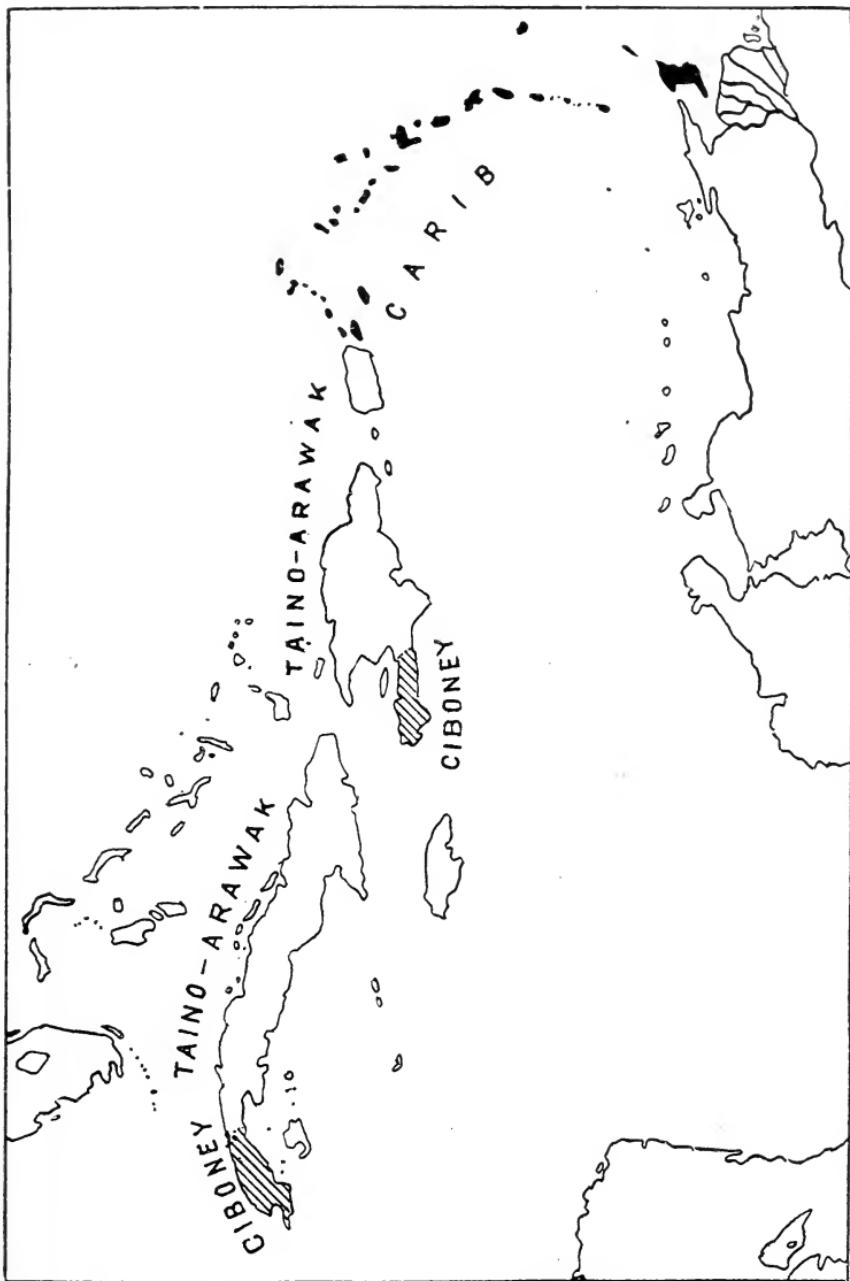
THE Indians of the Antilles possess an especial if melancholy interest in view of the fact that they were the first of the American aborigines to meet the white invader from overseas, and the first to lose their lands and to suffer virtual extermination at his hands. Columbus, and the early explorers following in his wake, found the Bahamas and the Greater Antilles (Cuba, Haiti, Porto Rico, and Jamaica) inhabited for the larger part by a number of peaceable agricultural tribes speaking similar dialects of the Arawak language, now grouped by students under the name of *Taino*. In the large islands of Cuba and Haiti were also found a very primitive group of Indians, in Cuba called *Ciboney*, which, although apparently at one period occupying large

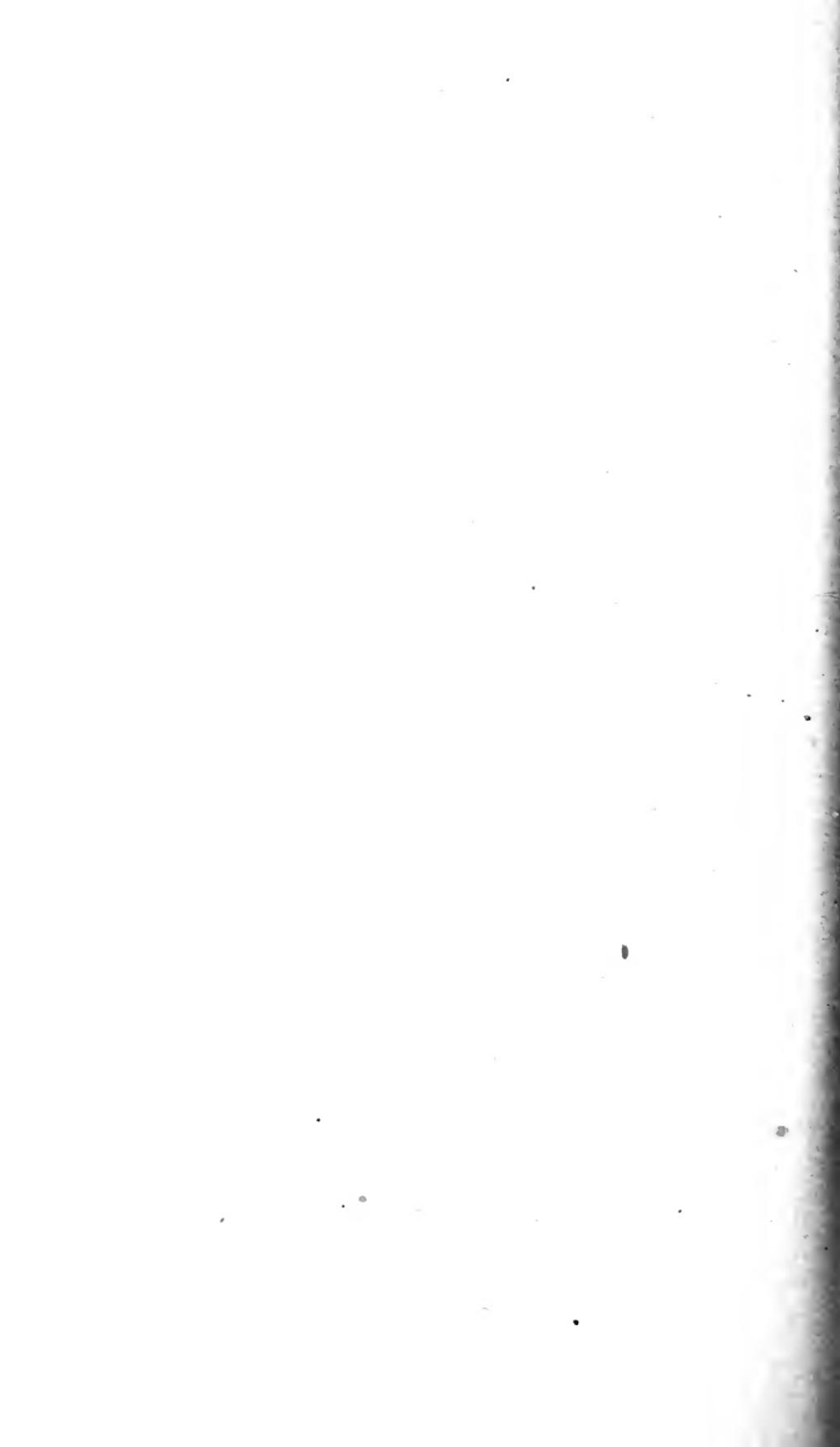
areas—the whole of Cuba, for instance,—by the time of the discovery survived only in certain isolated districts. These savages lived largely in caves, subsisting on natural products, without knowledge of agriculture, and were able to manufacture objects of only the simplest and crudest kinds.

The Lesser Antilles were found to be occupied by a third group, the *Carib*, a fierce and bloodthirsty people whose continual piratical raids and notorious cannibalism struck terror to the hearts of their more peaceable neighbors. In spite of this, they seem to have practised agriculture, and were nearly as far advanced in the arts as the Taino tribes.

The origin of the Ciboney, apparently the earliest inhabitants of Cuba, Haiti (Santo Domingo), and perhaps of other islands, is lost in the mists of the past. As yet there is no evidence to connect them with the tribes of North, Central, or South America. We have every reason for believing, however, that both the Arawak and the Carib migrated to the islands from South America, where many tribes speaking related dialects

DISTRIBUTION OF ABORIGINAL CULTURES IN THE WEST INDIES (ABOUT 1492)





are still found. The Arawak evidently left South America first, and gradually spread northward and westward, first through the Lesser Antilles, then the Greater, displacing the earlier inhabitants where such existed, and confining them to limited areas, as in Cuba. In the Greater Antilles they developed the culture we know as Taino; then a wave of Carib migration started from South America and spread through the Lesser Antilles. The Carib seem to have exterminated the Arawak bodily on some of these islands, while on others they killed the men and captured the women. When the caravels of Columbus first sighted the New World, the Carib had occupied all of the Lesser Antilles and were already raiding Porto Rico and Haiti, while the Taino were fast overrunning Cuba, driving the Ciboney to the western tip of the island and to the outlying keys.

The remains of the Taino-Arawak and of the Ciboney have been studied and their principal characteristics established; which has not, unfortunately, been done with any degree of completeness for the Carib.

However, archeology reveals the presence of three great cultures, and only three, and Columbus and his successors found three kinds of Indians inhabiting the West Indies. Now, two of the archeological cultures have already been identified as belonging to two of the groups, the Taino and the Ciboney, respectively, so we can not go far wrong in attributing the third culture to the third group, the Carib, especially as the distribution of that culture in the Antilles corresponds exactly with the Carib habitat as described by the early explorers. Indeed the results of archeological research in all the West Indies, so far as it has progressed, bear out to a remarkable degree our historical knowledge of the distribution of the peoples in the region. Thus in Cuba we find abundant remains of the Ciboney and the Taino, while relics of the culture attributed to the Carib are rare indeed; the Bahamas, Haiti (or Santo Domingo), and Jamaica have yielded many Taino specimens, and a few of Carib origin, while future examination may reveal the crude remains of the Ciboney, whose

presence in Haiti is suggested by historical evidence. Porto Rico yields mainly Taino artifacts, but Carib traces are fairly abundant; and the Lesser Antilles yield both Arawak and Carib objects—sometimes one, sometimes the other predominating, but mainly the latter. Much more information will be found in “Cuba Before Columbus,” published by the Museum.

THE TAINO TRIBES

THE term *Taino* has been adopted by archeologists as a general designation for the Arawak tribes of the Greater Antilles which had developed a peculiar culture of their own. The name is derived from their own language, and means “good or peaceable men,” as contrasted with the warlike and cannibalistic Carib. They made their living largely by raising corn or maize, cassava, and other native plants, and by fishing; but hunting, on account of the scarcity and the small size of most of the land animals, did not attain great importance. Most of their fishing was accomplished with nets, while clubs, or

macanas, and javelins were the favorite weapons for hunting and for war. The bow and arrow, though existing in some localities, seem to have been little used by these people. The canoes which furnished them transportation were dug out from single logs and were often well made and large. These were propelled with pointed paddles.

Their houses were circular or square in groundplan, neatly made of poles thatched with palm-leaves and walled with thin sheets of bark-like material from certain palm trees; their beds were hammocks slung from the rafters. Very characteristic were the stools or seats of wood, known as *duhos*, often beautifully carved in human or animal form and inlaid with shell, and their handsomely decorated food vessels of wood and of pottery. The boiling of food was done in earthen pots set directly over the fire, and baskets of various forms and sizes, hung from the rafters, contained surplus provisions, trinkets, and the like.

Peculiar graters made by driving innumerable bits of flint or other hard stone

into the surface of a slab of wood were used for grating cassava-root into meal, while for squeezing out the poisonous juices from the grated root to fit it for human food a basket press was employed. Both grater and press are still used by the related tribes in South America, while the presses are still remembered by surviving Cuban Indians, who have employed also the ancient type of grater until recently. After grating and pressing, the meal was made into thin loaves or cakes and baked on a flat circular griddle, made of pottery or stone, fragments of which are still abundant on the sites of the ancient villages.

For wood-cutting and similar purposes these tribes used hatchet-blades or "celts" of stone, some of them, especially the petaloid type, of unusual beauty in form and finish, mounted in club-like wooden handles; while fine cutting and carving of wood, bone, and shell were accomplished with knives, scrapers, and crude drills, rudely made from flakes of flint, their knowledge

of flint-working falling far behind that of other arts. Gritty stones were used for smoothing the work when finished.

Clothing was little used, both men and women going practically naked but for tiny apron-like garments, such as are still worn by their relatives in South America; but a profusion of ornaments was employed, including beads and pendants of stone, shell, and bone, and circular earplugs of shell. Doubtless suitable seeds and nuts, and the feathers of tropical birds of brilliant plumage were also widely employed as personal ornaments, as in South America.

The esthetic sense of the Taino was best expressed in their carvings, especially in wood and shell, the delicacy and symmetry of the work in some cases being unsurpassed in ancient America. The carvings in bone and stone are cruder, but still show a high degree of skill, as does much of the pottery. Objects may be decorated with purely geometric patterns, usually ovals or intricate scroll-like designs, or with effigies representing, in conventional form, men,

animals, and supernatural beings, the latter especially being grotesque to the last degree.

Little of Taino religion or mythology is known, but there is historical evidence that these had reached a considerable stage of development, and that masks, images, and the like were widely used. Doubtless the stone "collars" and three-pointed *zemis* from Porto Rico, and the grotesque images and amulets found on other Taino islands, represent only a small part of their ceremonial equipment, the rest, of perishable materials, having been lost through decay.

THE CIBONEY

FROM historical and archeological evidence, the Ciboney, apparently the earliest inhabitants of Cuba, and probably existing on the neighboring islands as well, subsisted solely on natural products without any knowledge of agriculture. Various fruits were eaten in season, and palm-nuts stored away for times of shortage, while land-crabs and shellfish formed a great part of the everyday diet. Fish and the

flesh of the jutia and other small animals were also eaten; and there is some evidence that the now extinct megalocnus, a huge ground sloth, may have formed part of Ciboney diet in ancient times.

There is no definite knowledge of their weapons, but it is very probable that the bow and arrow were numbered among them. They seem to have made dugout canoes of ruder construction than those of the Taino. They occupied caves and rock-shelters wherever possible, and in such places their remains are frequently found; but also on occasion lived in camps in the open—probably in shelters of the rudest kind. Most of their deposits show no trace of pottery, but they seem to have had a little after contact with the Taino. However this may be, they made bowls of wood with the aid of fire, using gouges made of conch-shell to scrape away the charcoal as the work progressed, and turned conch-shells into serviceable bowls and dippers by pecking out the interior whorls and the core. The stone mortars and pitted hammerstones employed by the Ciboney were

similar to those found throughout eastern North America, but their work in flint was very crude, consisting mainly of flake knives and rough scrapers. Axes or celts of stone and shell occur, but are rare and differ in form from Taino types.

We know nothing of their dress, or lack of it; their ornaments were disc beads fashioned of shell or of fish vertebrae, and pendants made from waterworn bits of shell or stone, and of sharks' teeth, perforated for suspension.

The only specimen known that may possibly illustrate the decorative art of the Ciboney is a carved wooden baton found in the mud of the bottom of a lake in western Cuba. The design consists entirely of dots and incised intersecting straight lines, and although neatly made, cannot be compared with the products of Taino art. It may have been used in ceremonies.

Nothing else relating to their ceremonial or religious life has apparently survived, unless the Ciboney may have been responsible for the exceedingly rude faces pecked on stalagmites in certain Cuban caves.

THE CARIB

As before stated, the Carib culture has not yet been fully worked out and defined, but we can be fairly certain that in general features (excepting always their piratical raids and their cannibalism, both characteristically Carib) their mode of life, dwellings, hammock-beds, use of cassava, and the like, were quite similar to those of the Taino.

The Carib were expert bowmen, however, which can not be said of the Taino, and the archeologist observes that they were much more given to painting their pottery than were the Taino, especially in red, black, and white; that the forms were somewhat different, and that the effigies used as handles and decorations for the earthenware vessels have a fat, bloated look not seen in Taino ware. The Carib, moreover, preferred celts of ordinary type, or notched or grooved stone axes, or axes of fanciful form, to the petaloid celt-axe characteristic of the Taino; in fact, when petaloid celts are found on Carib islands they are probably either relics of the orig-

inal Arawak occupancy or were brought home as trophies by Carib raiders from Taino territory.

Carved wooden stools, idols of stone or wood, carved wooden platters, and stone collars, all familiar Taino artifacts, do not seem to have been made by the Carib, and are seldom seen in the Lesser Antilles, although the three-pointed *zemis* may have been occasionally imitated by them. It is also noticeable that beads, amulets, or personal ornaments of any kind, so abundant in Cuba, for example, are rare in Carib territory, and when they do occur are usually different in form—perhaps this people made such things mainly of perishable materials.

ETHNOLOGY OF THE WEST INDIES

(Case 316A)

OWING to their enslavement and virtual extermination by the Spaniards shortly after the Discovery, but few persons showing Indian blood to a marked degree are left in the West Indies; yet some linger in

Cuba, mostly in the eastern part, and in a few of the other islands. Most of the collection exhibited was obtained from Yara village near Baracoa, Cuba, and from scattered families in the Maisi district, survivors of the Taino. Many of the articles shown are also used by the neighboring country people of Spanish extraction, but all seem to be of aboriginal origin. Some, however, show modification due to Spanish influence. Especial attention is called to the cassava grater, made by driving bits of hard stone into a wooden tablet.

On the lower shelf may be seen a few articles made by the surviving Carib of St. Vincent and Trinidad, and on the top of Case 329 a raft or catamaran of native type from the former island.

ARCHEOLOGY OF THE WEST INDIES

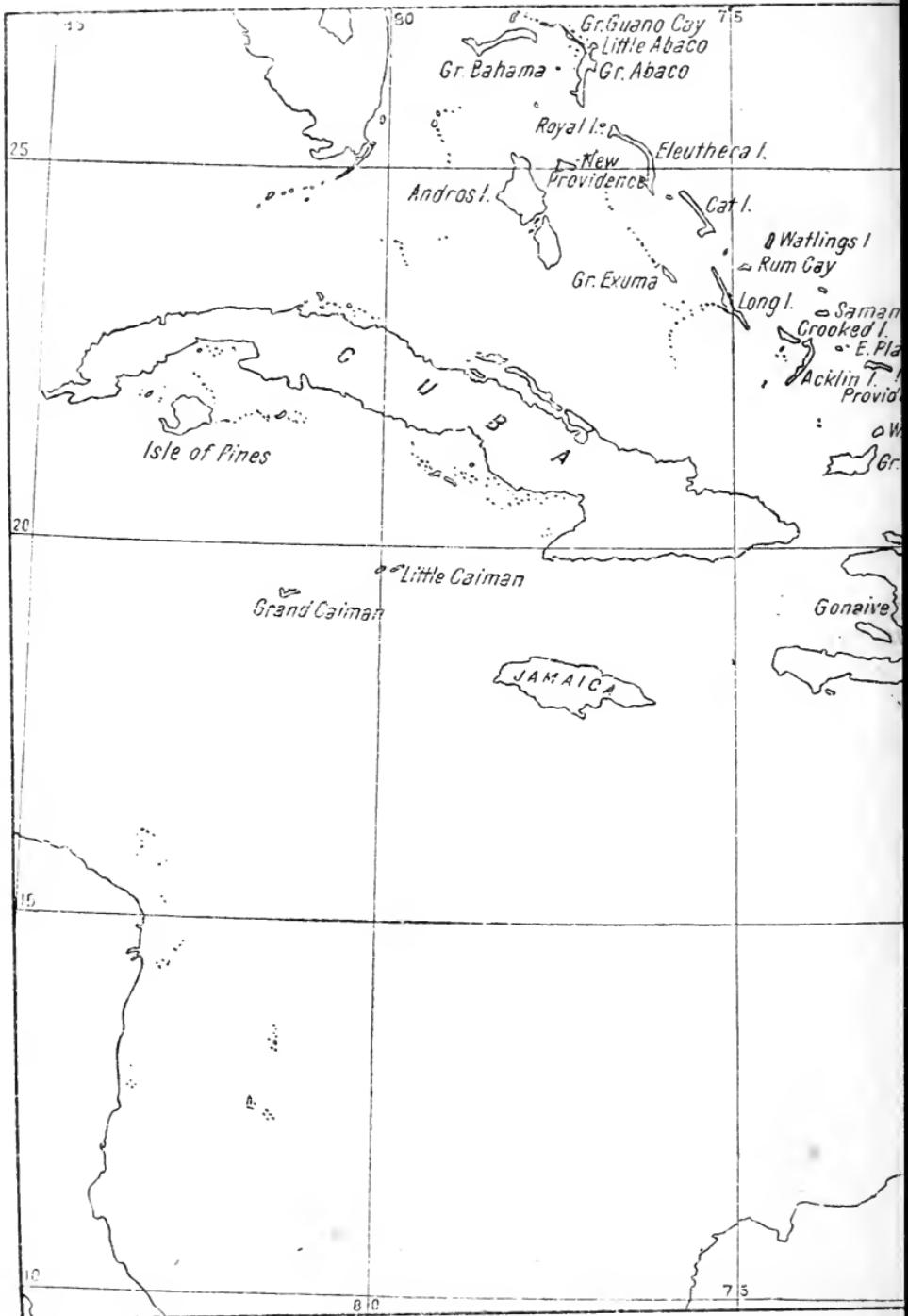
CUBA

(Cases 316 B-C, 317 A-C)

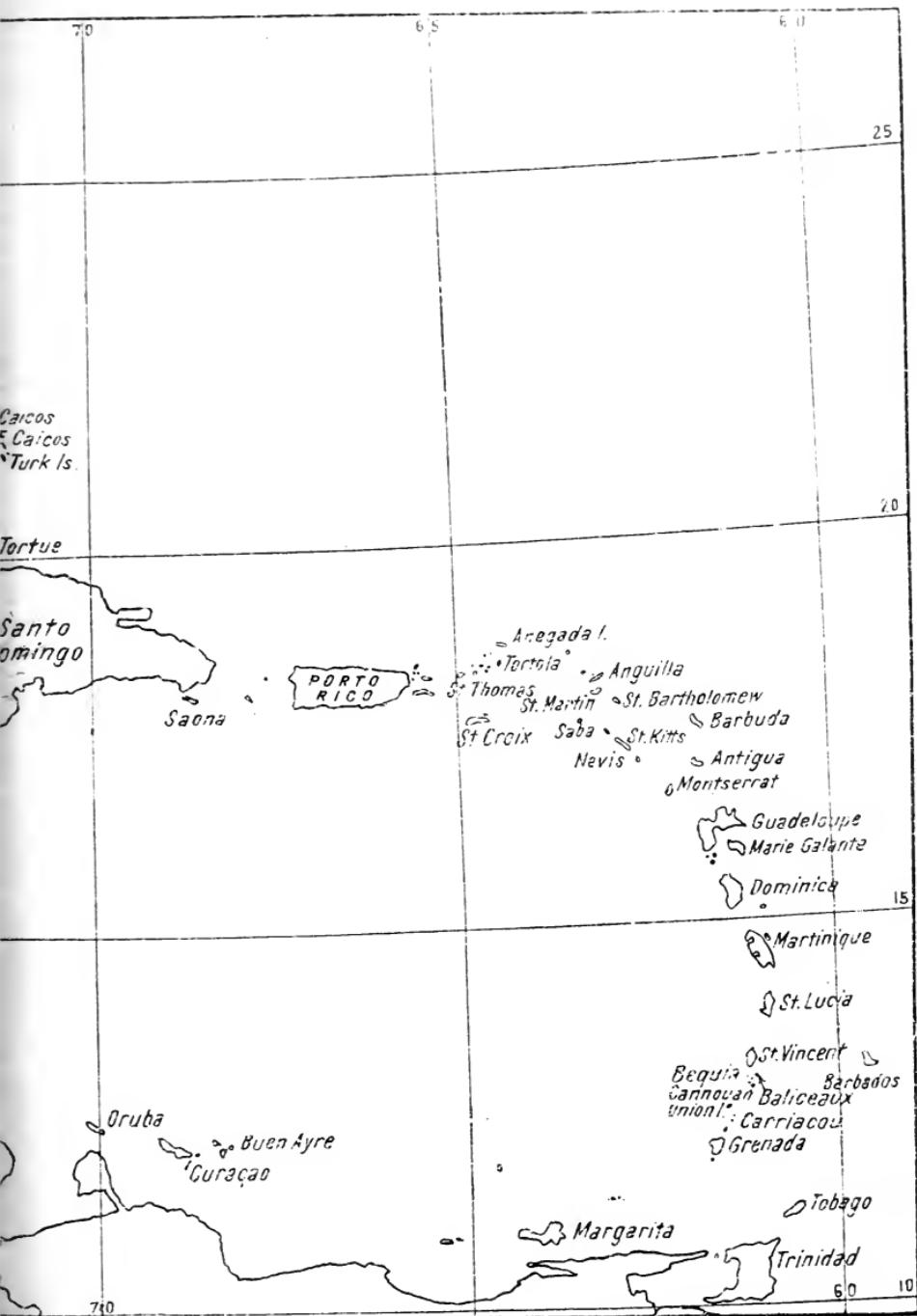
IN Cuba exploration by expeditions from this Museum thus far has revealed two principal cultures: (1) that of the primitive

INDIAN NOTES

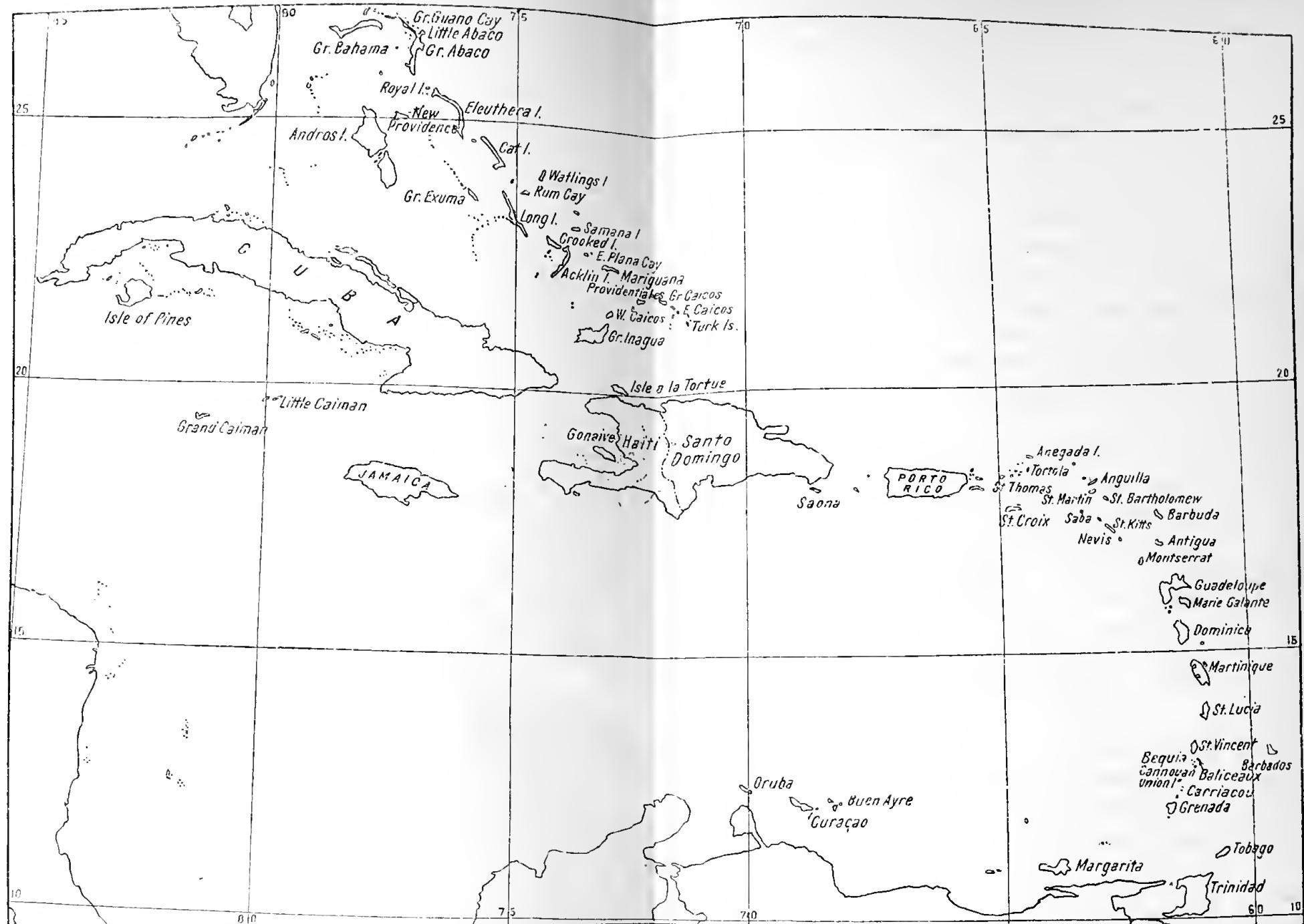




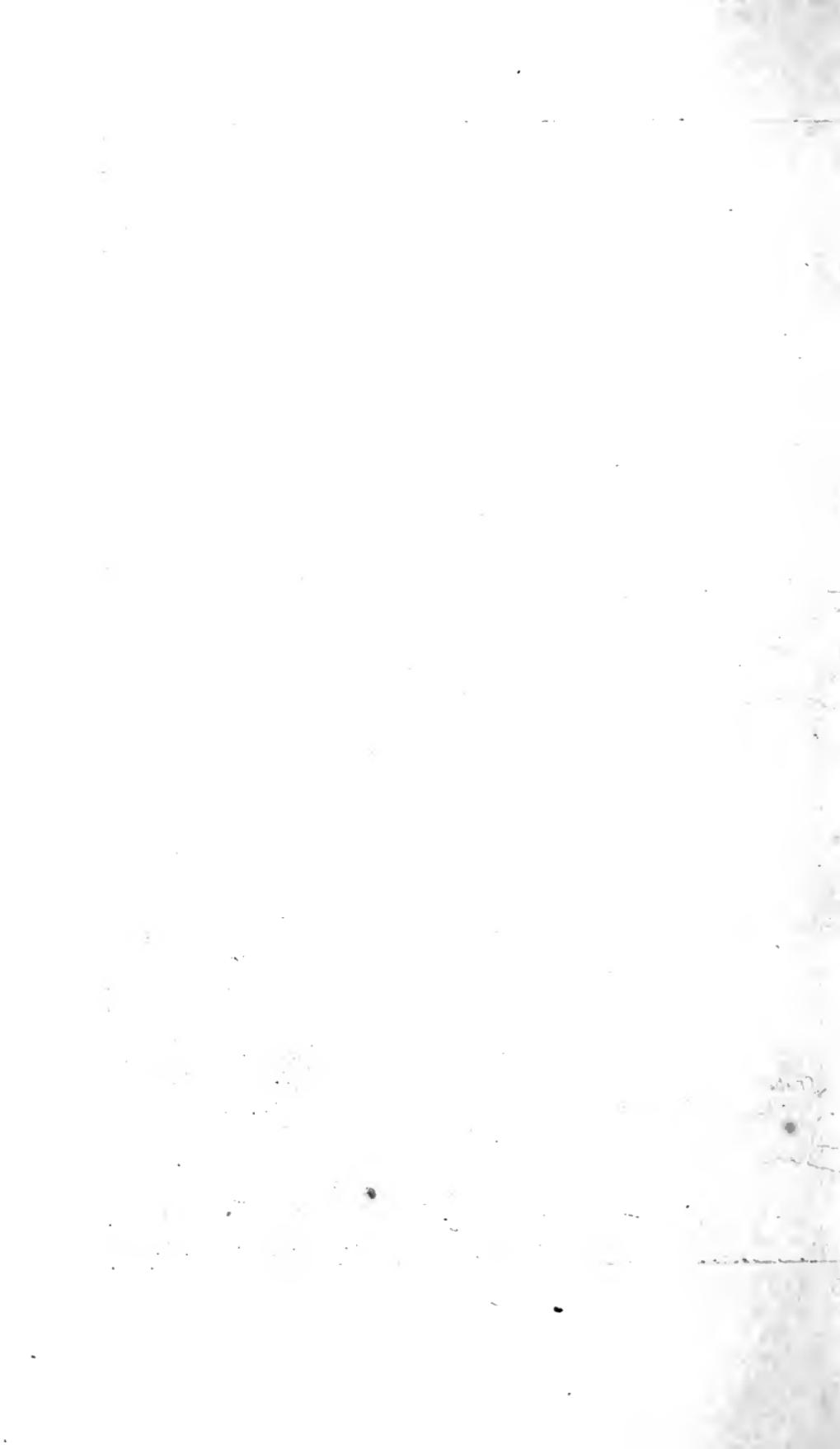
THE







THE WEST INDIES



cave-dwelling Ciboney who were apparently the earliest inhabitants and lived in early times from one end of the island to the other; (2) that of the more advanced Taino who were long established only in the eastern end of the island, although just before the conquest they had overrun most of it. Thus it happens that although crude Ciboney specimens may be found in almost any part of Cuba, the remains of the Taino may be encountered in quantity only in the eastern portion.

Most of our Ciboney specimens were found buried in the floors of the caves where these people once lived, although some were discovered in the refuse-heaps marking their camp-sites. On the other hand, most of the Taino material in the Museum was exhumed from village-sites, and only occasional specimens—usually fine objects hidden for safekeeping—were found in caves.

Two full case panels and parts of two more are devoted to one of the most characteristic products of the Taino—their pottery. The range of form and design

used by the Cuban bands are well illustrated, especially the almost endless variety of grotesque heads and figures used as handles for the vessels.

Equally characteristic of the Taino are the beautiful petaloid celts, of which a representative series is displayed, beside celts of forms which might have originated anywhere, and various forms of hammerstones, pestles, and other stone implements. The making of celts is illustrated by a series showing them in all stages of manufacture, together with the hammerstones used to batter and grind them into shape. The use of such celts as axes (hafted like the specimen from North Caicos, Case 319 B) is illustrated by a cut stick forming part of a rack in a burial cave. Also of stone are various fetishes, amulets, and beads, some of them beautifully made, and a few pitted stones, mortars, cassava griddles, weights, and the like. Another characteristic Taino art is illustrated by specimens of wood-carving, including a paddle, part of an effigy representing a cayman or crocodile, and a beautifully carved platter, all found hidden

in caves for safekeeping. The last two of these have evidently been inlaid at some time with mother-of-pearl.

The shell carving of the Taino was often excellent, as may be seen by the amulets and ornaments in the exhibit, while a series of tools and unfinished objects show how the work was done.

Objects of bone are not so abundant, but in the collection exhibited some of the pieces (especially the part of a bone platter and the fragments of spoons and swallow-sticks) exhibit considerable skill.

The coming of the Spaniards and the beginning of the written historical period in general are illustrated by two specimens only—a rusty iron spear-head and a crumpled piece of sheet-copper.

The shell vessels, shell gouges, mortars, and pitted hammerstones, characteristic of the primitive Ciboney from both ends of the island, may be seen in the last panel, together with their beads and simple ornaments, their rude flints, and a few examples of their woodwork. Of the last, the baton with a carved handle is especially worthy

of notice, as perhaps the only surviving example of Ciboney decorative art. This, with several other wooden objects, was found in the muck in the bottom of a lake in Pinar del Rio.

A small number of potsherds exhibited in this section, found in a few Ciboney caves, may indicate that in later days the primitive Ciboney people acquired some knowledge of the potter's art, perhaps from the invading Taino.

Of unknown origin are the crude faces and figures on exhibition found carved on stalagmites in certain caves. They were probably used ceremonially, but whether the Ciboney or the Taino made them is impossible to say, although their rudeness would suggest the former.

JAMAICA
(Case 319 A-D)

THE upper two shelves of Case 319 and the space under it are devoted to a collection from Jamaica, all of which, except perhaps several large stone mortars, and the three-legged grinding stone or seat,

seems to be easily identified as Taino. This seat may have been imported from the mainland; the mortars are of unusually large size, but they resemble some Cuban Ciboney mortars in form.

An examination of the pottery reveals the fact that it bears a strong similarity to Cuban Taino ware, although somewhat simpler and cruder, on the whole, in form and design; the hatchets and ornaments are clearly similar to corresponding objects in Cuba.

Perhaps the slight inferiority noticeable in Jamaican Taino remains, as compared with those of the other islands, may be due to the fact that Jamaica is somewhat isolated, and was not in continual touch with the specialized development of Taino culture in Cuba, Haiti (Santo Domingo), Porto Rico, and the Bahamas.

The explorations by the Museum expedition to this island have been described in a publication "Certain Kitchen-middens in Jamaica."

BAHAMAS
(Case 319 A B)

A GLANCE at the collection from the various islands of the great Bahama group lying north of Cuba, the names of which may be found on the accompanying map, shows that their culture was indistinguishable from that of the Cuban Taino.

Here we have the typical Taino petaloid celts, decoration on pottery, and amulets, some of the latter better than any we have from Cuba, and an excellent series of typical wooden seats, or *duhos*, two of them adorned with heads and one with intricate carvings like those of the Cuban wooden platter.

Best of all is a fine petaloid celt with its wooden handle still intact, found in a cave on North Caicos island. That this was a usual method of hafting these stone axes may be seen from a monolithic hatchet from Grand Caicos carved from a single piece of stone to represent a petaloid stone celt in a similar wooden handle. A similar but ruder one was found in Providenciales.

Suggesting the presence of the Ciboney in the Bahamas are several shell gouges;

and perhaps further investigation will establish the fact of their presence in these islands before the coming of the Taino. The existence of a third and as yet unknown culture is suggested by the finding, in the Caicos group, of some extraordinary shell-tempered potsherds, highly decorated with incised straight lines and angles, unlike anything found elsewhere in the West Indies.

SANTO DOMINGO

(Cases 318 A-D, 321 A)

THE island of Santo Domingo, anciently called Haiti, and now occupied by the republics of Santo Domingo and Haiti, although only partially explored, has yielded a large collection consisting, for the greater part, of pottery and stonework, both to a large degree obviously of Taino origin and similar to the specimens found in Cuba and the Bahamas.

Some of the pottery is better made than the average Cuban ware, and there is an even greater variety in form, yet the resemblance is very strong indeed. Special

attention is called to the heart-shape water-bottles, a type not seen in Cuba at all, and the hollow human figures of earthenware, perhaps used as idols, of which only fragments were found in Cuba. Stamps for applying paint, made of earthenware, and in one case of stone, are abundant on this island.

In stonework we have the little figurines or amulets, the beads, the pestles, and the petaloid celts characteristic of the Taino culture in Cuba, but in addition we find *zemis*, or "three-pointed fetishes," in the form of the human breast, which are thought to represent the God of Food or of Fertility; and the curious massive objects of stone, shaped like horse-collars, also thought to be fetishes. These last two classes of objects are especially characteristic of the Taino bands of Porto Rico.

Other noteworthy specimens in stone are a unique dagger or club, a carving representing a monkey, once apparently attached to a staff or handle of wood, a large flint implement, and two T-shape stones of unknown use.

Exhibited also are a few objects of shell and bone suggesting those of Cuba, and a small but interesting wooden idol, all typically Taino.

Carib culture is represented in the collection from this island only by a few axe-heads and perhaps the T-shape stones, and the Ciboney not at all; but further exploration will probably supply specimens of both, especially the latter.

The results of two expeditions to this island have been published by the Museum.

PORTO RICO (Cases 321 B, 322 A)

IN the Porto Rico exhibit we see the massive stone collars and the mammiform *zemis*, before mentioned, as being the most characteristic of Taino products for this island, although found occasionally in Santo Domingo, and, rarely, in the Lesser Antilles.

As before stated, the *zemis*, or three-pointed stones, most of them made in the form of the human breast, probably represent the God of Food or of Fertility, or

maybe Mother Earth from whom the tribes of men draw their food as the infant does from its mother's breast. They seem to have been considered powerful in producing large crops of yuca or cassava.

It is thought that the curious objects of stone resembling horse-collars, like the three-pointed stones, were *zemis* or fetishes used in tree-worship, and that the earliest forms were of wood, made by bending a root or a pole into the form of an oval hoop and fastening the ends together. A more highly developed form was apparently compound, combining a wooden hoop with a so-called "elbow-stone," of which we exhibit some specimens, while the final stage was the collar, made entirely of stone, but still showing in many cases an attempt to represent characteristics of the wooden original.

Much of the pottery is thoroughly Taino in character and might have come from Santo Domingo or Cuba, but Carib influence is seen in the red-painted ware and in the forms of some of the grotesque heads used as handles for vessels.

Most of the stone axes in the collection from this island are either typical Taino petaloid celts or celts of more widely distributed forms; the stone beads and the like resemble those of Cuba. Especially worthy of note is the *duho*, or wooden seat, the back of which is higher than usual, and a tiny *duho* of stone made to represent the wooden type.

No trace of the Ciboney culture is seen in the collection, unless the few rude celt-like implements of shell may be attributed to them.

VIRGIN ISLANDS

(Cases 322 B, 324 B)

THE Virgin Islands, including St Thomas, St Croix, St John, and Tortola, recently acquired by the United States, have yielded to a Museum expedition a collection illustrating both the Arawak and the Carib cultures, the former doubtless representing the earlier occupancy, as the Carib seem to have been in full possession at the time of the Discovery. The rather crude character of the Arawak pottery

would indicate this, too—it seems to represent a period before the Taino culture had attained the height of its development. Much of the pottery found on these islands is so plain, however, that it lacks distinguishing features serving to determine its origin. The distinctly Carib ware is recognizable as usual by its decoration in red or in red and white, and by the form of the grotesque heads. Especially interesting are several massive Carib bowls showing painted decoration on the inside.

One Taino stone collar was collected on St. Croix island, but this was probably a trophy from Porto Rico brought home by Carib raiders; and there are also two small rude mammiform *zemis* of Taino style. The stone axes show both the grooved and the notched forms of the Carib, the fine petaloid celts of the Arawak, and a number whose origin is doubtful.

There are several objects of bone in the collection also—one of them the handle, carved in the form of a man, of some implement, probably a “swallow-stick,” such as was thrust down the throat in certain

ceremonies. This has inlaid shell eyes and mouth, and is an excellent specimen of Taino art.

The Ciboney are not represented in the collection, unless it may be that they made the shell celts displayed. It will take further exploration and study to determine whether this was the case, or whether the implements in question were the work of the Arawak or the Carib. It seems probable, however, in view of their increase in number as we pass down through the islands, that they are of Carib origin.

Further information may be found in "Archeology of the Virgin Islands," published by this Museum.

OTHER ISLANDS

(Case 324 A B)

FROM Anguilla and St Eustatius the collection is small and has little character. From St. Kitts and Nevis most of the axes and pestles have a Carib appearance. Montserrat yields Carib stone implements, and decidedly Carib polychrome pottery, with one tiny three-pointed *zemi* of Arawak

origin, or showing the influence of that people. On the other hand, we see two decidedly Arawak petaloid celts in the Antigua collection, and the four objects from St Martin include one fine Taino *zemi*.

GUADALOUPE AND DOMINICA (Case 324A)

THE larger collection from Guadalupe, mainly stone axes, consists on the whole of distinctly Carib types; and here we first note the ornate forms of stone axe-heads so highly developed farther south; and the same may be said of the Dominica collection. In this the only object suggesting the possibility of Arawak origin is a solitary three-pointed *zemi*, and this may be merely a Carib imitation.

MARTINIQUE (Case 324B)

THE small collection from this island shows the Arawak petaloid celt and the Carib grooved or notched axe side by side.

INDIAN NOTES

SANTA LUCIA

(Case 325 B)

FROM Santa Lucia the collection consists mainly of stone axes, and ornate stone forms of unknown use. These are mainly pure Carib in type, except a few fine petaloid celts which might have, and probably did, come from Santo Domingo or Cuba, captured by Carib raiders.

ST VINCENT

(Cases 325 A B, 326, 327 A-D)

BUT it is not until we reach St Vincent that the remains of Carib culture at its highest stage of development are found. Here we find the typical massive though usually well-made pottery, the bloated appearance of the grotesque heads used as handles for the vessels, the extensive use of red, white, and black paint in decorating—in fact, all the distinguishing characteristics of Carib ware.

The stone implements, mainly axes, are equally typical of Carib culture, for the greater part notched or grooved, and some

of them ornamented with decorative protuberances of varying forms. One especially ornate specimen, doubtless intended for ceremonial use, shows a carved open-work decoration on the poll, and others, effective designs on the blades. A handsome decorated dish of stone also figures in the collection.

There are also a number of crescent-shape, hook-like, and fanciful forms of stone to which no practical use can be assigned, although they are made of material hard enough to stand service as implements. Also exhibited is one entire case (326) filled with fanciful forms in stone too soft to have been of practical service for any purpose. Some of these represent the well-known axe-forms of the island, some the stone dishes, while others are entirely fanciful. They were found for the greater part in a single locality, and, it is thought, formed part of a ceremonial deposit of some sort.

Before leaving the subject of stone objects, attention is called to the large mortars and grinding slabs, and the huge axe-heads too large for practical use, all exhibited

beneath Case 327; also to the beads and amulets of stone which in most cases differ markedly from those of the Taino.

The only objects suggesting Taino styles in the collection are a few fine petaloid celts, perhaps brought home as war trophies, and some small three pointed *zemis*, probably imitations of Taino forms.

GRENADINES

(Case 328 A-D)

THE collection from the Grenadine islands including Baliceaux, Cannouan, Mustique, Bequia, Carriacou, Union I., and Little Martinique, shows practically the same culture as St Vincent, for the greater part typically Carib, with the exception of two three-pointed *zemis* of Taino type, and a few petaloid celts.

The island of Cannouan, however, has yielded some exceedingly rude axe-like implements that suggest the presence of another and very primitive culture which should be further investigated.

Special attention is called to the curiously grotesque water-bottle of pottery from the

island of Carriacou. Shell celts seem quite numerous in these islands, but their origin is as yet uncertain.

GRENADA

(Case 329 A B)

IN Grenada the Carib culture is found still in its most exuberant form, with axes and pottery, exactly as in St Vincent, and here too are found abundant shell celts and occasional highly polished Taino petaloids. As in Cannouan, there are a few exceedingly crude axe-like implements suggesting a former primitive culture.

Another noticeable feature is the presence of several true adze-blades of stone with one flat and one convex side, an implement seen only occasionally on other Carib islands and not at all in the Taino district.

TRINIDAD

(Case 330 A B)

IN Trinidad, the last of the chain of islands and nearest the South American coast, we still find Carib pottery at its

INDIAN NOTES

highest point of development, but our collection contains fewer of the typical Carib axes, and a new form, but rarely seen in the other Carib islands, appears here—an axe with two sharply cut notches near the poll—a type characteristic of Venezuela and the Guianas. Attention is called to the excellent series of complete or nearly complete Carib pottery vessels, especially a unique bird-shape water-bottle.

The results of two expeditions to this island have been published by the Museum.

TOBAGO

(Case 329 C)

ONE would expect the island of Tobago, lying fairly near to Trinidad, to yield a full series of Carib artifacts, but such is not the case. The collection, on the contrary, comprises a large number of celts, including the petaloid, with very few axes recognizable as Carib, and no pottery at all, while a plummet-like stone implement, not seen elsewhere in the islands, appears.

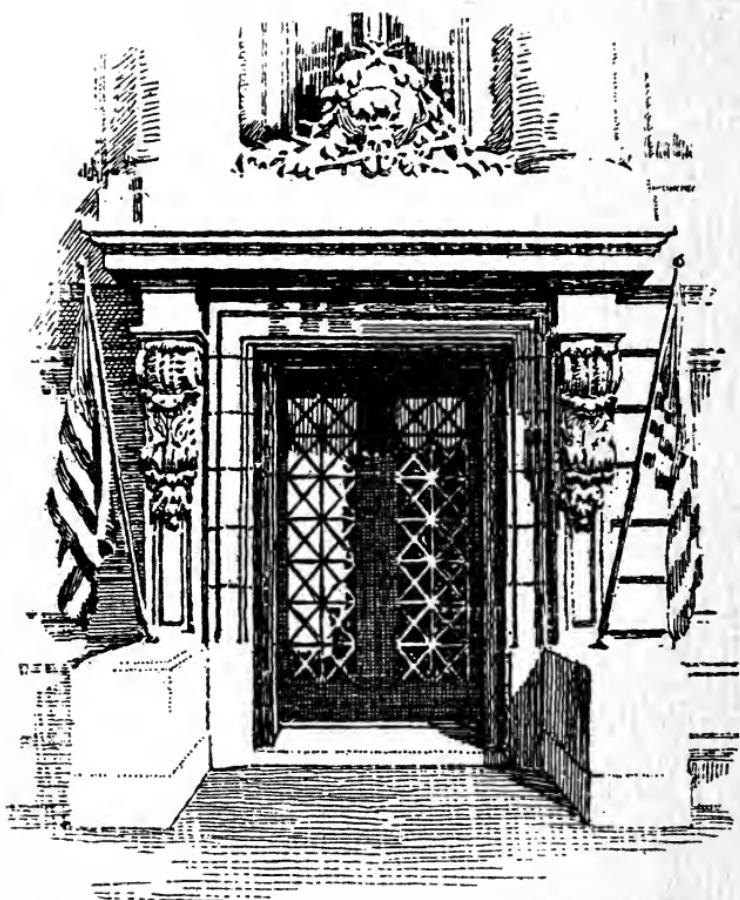
BARBADOS
(Case 329 C)

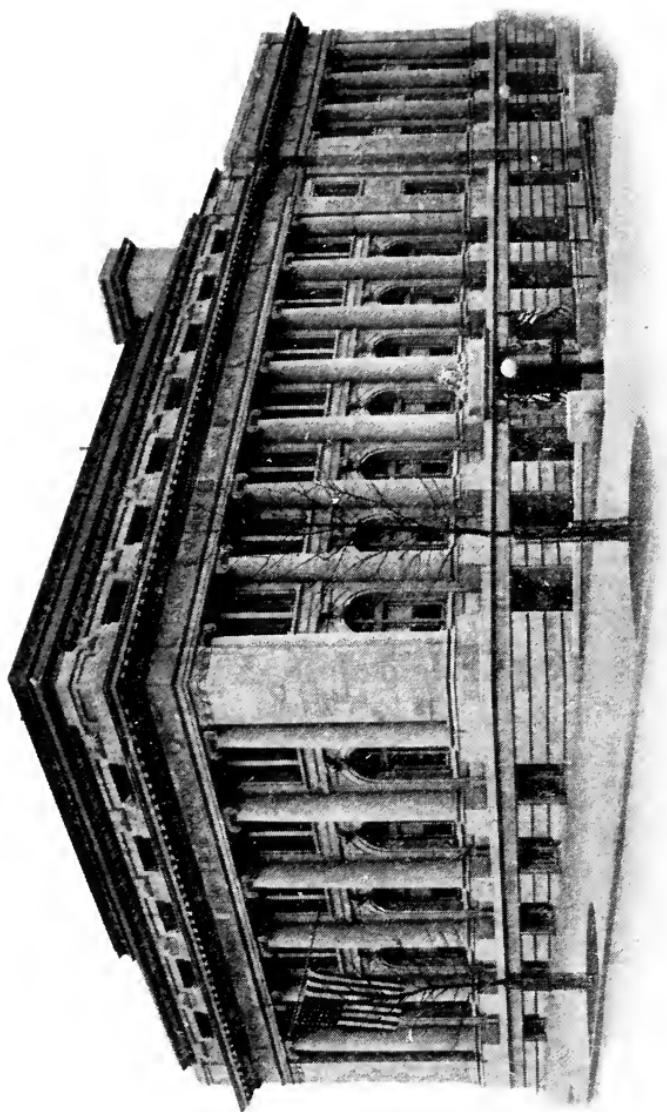
THE outlying island of Barbados, lying considerably to the eastward of the main archipelago of the Lesser Antilles, has yielded an unusually large collection of shell celts and gouges, some crude pottery, most of which is Carib, but a few pieces of which appear to be Arawak, a typical Carib "hookstone," three Carib axes, and four celts, all of which last might be, as one certainly is, of Arawak origin. It is probable, therefore, that both Carib and Arawak occupied the island at different periods, but to solve this and other West Indian archeological problems, a great deal of further exploration and study will be needed.

MUSEUM OF THE AMERICAN INDIAN HEYE FOUNDATION

ITS AIMS AND
OBJECTS

NEW YORK
1921





MUSEUM OF THE AMERICAN INDIAN, HEYE FOUNDATION

MUSEUM OF THE AMERICAN INDIAN
HEYE FOUNDATION
Its Aims and Objects

THIS Museum occupies a unique position among institutions, in that its sole aim is to gather and to preserve for students everything useful in illustrating and elucidating the anthropology of the aborigines of the Western Hemisphere, and to disseminate by means of its publications the knowledge thereby gained.

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Barrett, now of the Milwaukee Public Museum, carried to completion an ethnologic study of the almost unknown Cayapa Indians of northwestern Ecuador, a monograph pertaining to which will shortly be published. The results of Professor Saville's archeological work in Ecuador and Colombia have been of great importance, both from the point of view of knowledge obtained and of collections gathered, as the culture of the prehistoric tribes of the regions explored has for the first time been made known. One of the immediate results of these studies is the report on The Antiquities of Manabi, Ecuador, issued in two quarto volumes in 1907 and 1910. The artifacts from Ecuador, and later from Colombia, consist chiefly of earthenware vessels, some of them large burial urns, stone objects (including many massive carved seats), and ornaments of gold and platinum.

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ther increased soon after the definite establishment of the Museum of the American Indian, Heye Foundation, in 1916, and the selection of its board of trustees. Ever interested in the advancement of knowledge, James B. Ford, Esq., one of the trustees, pursued his policy of aiding scientific endeavor when he assumed pecuniary responsibility for much of the research thus far conducted by the Museum in the countries to the south, as well as for rare and important collections which it has been so fortunate as to procure; and it was due to his further interest that the Central American investigations were now enlarged. These generous gifts, which have made the Museum preëminent in many ways, so far as Central America is concerned, have been augmented by Minor C. Keith, Esq., also a trustee, through his liberal donation of the largest collection of Costa Rican earthenware extant, and by Harmon W. Hendricks, Esq., likewise a trustee, who made it possible for the Museum to acquire, among other treasures, a marvelous sculptured vase from Guatemala—a gem of aboriginal handiwork, a description of which has been published in the form of a Leaflet through Mr Hendricks' further generosity. The importance of the Keith collection has already been manifested by a specialist who is using it as the basis of a memoir on the ceramic art of Costa Rica, to be published by the Museum.

Other Benefactions.—In the matter of other collections Mr Hendricks has been generous almost beyond measure. Hundreds of priceless ethnological and archeological objects have been contributed by him from time to time—objects such as one would scarcely have believed to exist outside of museums. And not only this, for Mr Hendricks has made possible the excavation of the ruins of Hawikuh, one of the famed “Seven Cities of Cibola,” occupied by the Zuñi Indians of New Mexico from prehistoric time until 1670, a work that has been in progress by the Hendricks-Hodge Expedition during the last four field seasons and which will be resumed in the summer of 1921 under the continued charge of Mr F. W. Hodge.

Gifts by Trustees.—In this brief summary only a few of the gifts made by trustees of the Museum, important as they are, can be mentioned. As proof of the interest he has always manifested, Mr Hendricks has presented, besides those mentioned, various large collections, including numerous polychrome vessels from the celebrated Casas Grandes of Chihuahua; two Penn wampum treaty belts, procured in London; a large number of gold ornaments from Colombia; a collection of archeological objects from Tennessee, Virginia, Kentucky, and Pennsylvania; a collection of archeological and ethnological specimens from the Cho-

koi tribe of Panama, and of ethnologic artifacts from the Plains Indians, gathered at Fort Laramie, Wyoming, about 1850; and a collection of native woven blankets, belts, etc., from the Southwest and northern Mexico.

Of no less importance and scientific value have been the gifts by Mr Ford, which include extensive archeological collections from the California islands; the Lady Blake collection from the West Indies; many ivory carvings of the Eskimo; ethnologic objects illustrating the life of the Cree, and of the Eskimo of Hudson bay, Bering strait, and the Yukon territory; collections of antiquities from Mexico, Honduras, Guatemala, and British Honduras, the latter including a fine series of painted Maya vases; and an ancient Inca textile, a marvel of aboriginal American art.

So extensive and important are the many and varied objects given by Messrs Ford and Hendricks, in addition to their benefactions in other ways, that it is no exaggeration to say that the objects which bear their names would form an important nucleus for any museum. Another trustee, F. Kingsbury Curtis, Esq., has given to the Museum the important G. T. Arms collection of archeological and ethnological material from Chile; while to another, Archer M. Huntington, Esq., the Museum is indebted for a series of original water-color drawings of Indian subjects by George Catlin.

The Building.—Indeed, the Museum owes much to the liberality of its trustees and to their active interest in its endeavors. Crowded in its quarters in a loft building, it was Mr Huntington who made possible the erection of a fireproof edifice to house its treasures, by the gift of a tract of land adjacent to The Hispanic Society of America, The American Geographical Society, and The American Numismatic Society, while other trustees, together with other friends of the Museum project, contributed liberally to the funds required for the building and its equipment.

Valued Contributions.—Likewise generous have been those whose only direct relations with the Museum are their interest in its aims and objects. Among these are Mrs Thea Heye, whose name is not only borne upon hundreds of valuable objects, including those forming a collection of Mocoa ethnological material from Venezuela, but who has met the expense of an expedition to Santa Catalina and San Miguel islands, California, which has been productive of collections of rare value to the study of the archeology of their former inhabitants. Especially noteworthy among the other benefactors of the Museum are: Miss Edith Hendricks, who has presented collections of ethnological specimens from the upper Amazon and of antique material from the Iowa tribe, as well as other objects; Mrs Charles R. Carr, of Warren, Rhode

Island, an archeological collection from an historic Indian site at Burr's hill, the result of her husband's excavations; W. de F. Haynes, Esq., who contributed rare archeological objects from South Carolina and from Tennessee and adjacent states; the late W. J. Mackay, an Iroquois archeological collection from northern New York and Ontario; Rev William R. Blackie, his collection representing the archeology of Westchester county, New York; Homer E. Sargent, Esq., and the late Mrs Russell Sage, notable collections of Indian basketry; Reginald Pelham Bolton, Esq., who not only has given various archeological specimens from New York City and vicinity, but has contributed of his valued services without stint in the Museum's field-work; Rodman Wanamaker, Esq., twelve sculptured stones from Guatemala, including a large and unique slab. Altogether, the specimens presented to the Museum since its foundation, by those not directly connected with it, number more than 18,000.

Growth.—Study Collections.—So greatly and so rapidly have the collections of the Museum increased that they have already practically outgrown the building, consequently the collections to be exhibited are only a very small part of those in the Museum's possession. Owing to these limitations of space it has been necessary to present to the public view only small synoptic series

of objects illustrating, in an admittedly meager way, the culture of the Indians which they represent. But the main object of the Museum is not to appeal to the general public, welcome as it will be to view the exhibits; rather it is the aim to afford to serious students every facility for utilizing the collections in their researches. To this end there are many thousands of unique specimens in the study series, which will always be available for this purpose and which indeed have already been thus extensively used.

Physical Anthropology.—Pursuant to the policy of the Director to expand the activities of the Museum as opportunity afforded, there has been established, as an integral part of its work and under the patronage of Dr James B. Clemens, a division of physical anthropology, in immediate charge of Dr Clemens, assisted by Dr Bruno Oetteking, which will have the care and study of all skeletal material obtained.

Publication.—Following the issue of the two quarto volumes on the Antiquities of Manabi, Ecuador, the publications were confined to a series of *Contributions from the Museum*, consisting largely of articles by members of the staff, reprinted from scientific journals. In the spring of 1919, however, following his liberal patronage especially in the direction of the physical needs of the Museum, Mr Huntington contributed the

means for the publication of a series of *Indian Notes and Monographs*, which not only affords an unusual opportunity for disseminating the results of studies by members of the staff and by the Museum's collaborators, but which has greatly stimulated activity in this direction. It is therefore due entirely to Mr Huntington's interest that the Museum, even in the short time during which his generous gifts have been available, has been enabled to issue thirty-two volumes or parts of volumes of the series mentioned, while twenty-five others are in press and twenty-three in actual preparation. A list of these and of the other publications of the Museum will be sent on application.



INDIAN NOTES AND MONOGRAPHS

EDITED BY F. W. HODGE



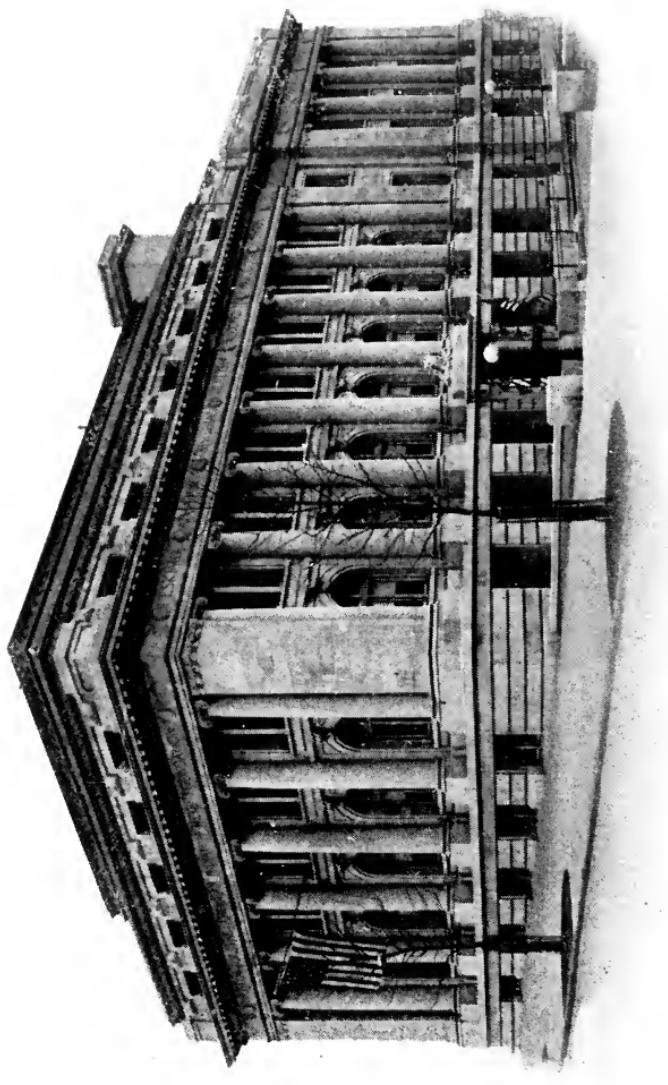
A SERIES OF PUBLICA-
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AIMS AND OBJECTS
OF THE
MUSEUM OF THE AMERICAN
INDIAN, HEYE FOUNDATION

NEW YORK
MUSEUM OF THE AMERICAN INDIAN
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1922

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Only the first ten volumes of INDIAN NOTES AND MONOGRAPHS are numbered. The unnumbered parts may readily be determined by consulting the List of Publications issued as one of the series.



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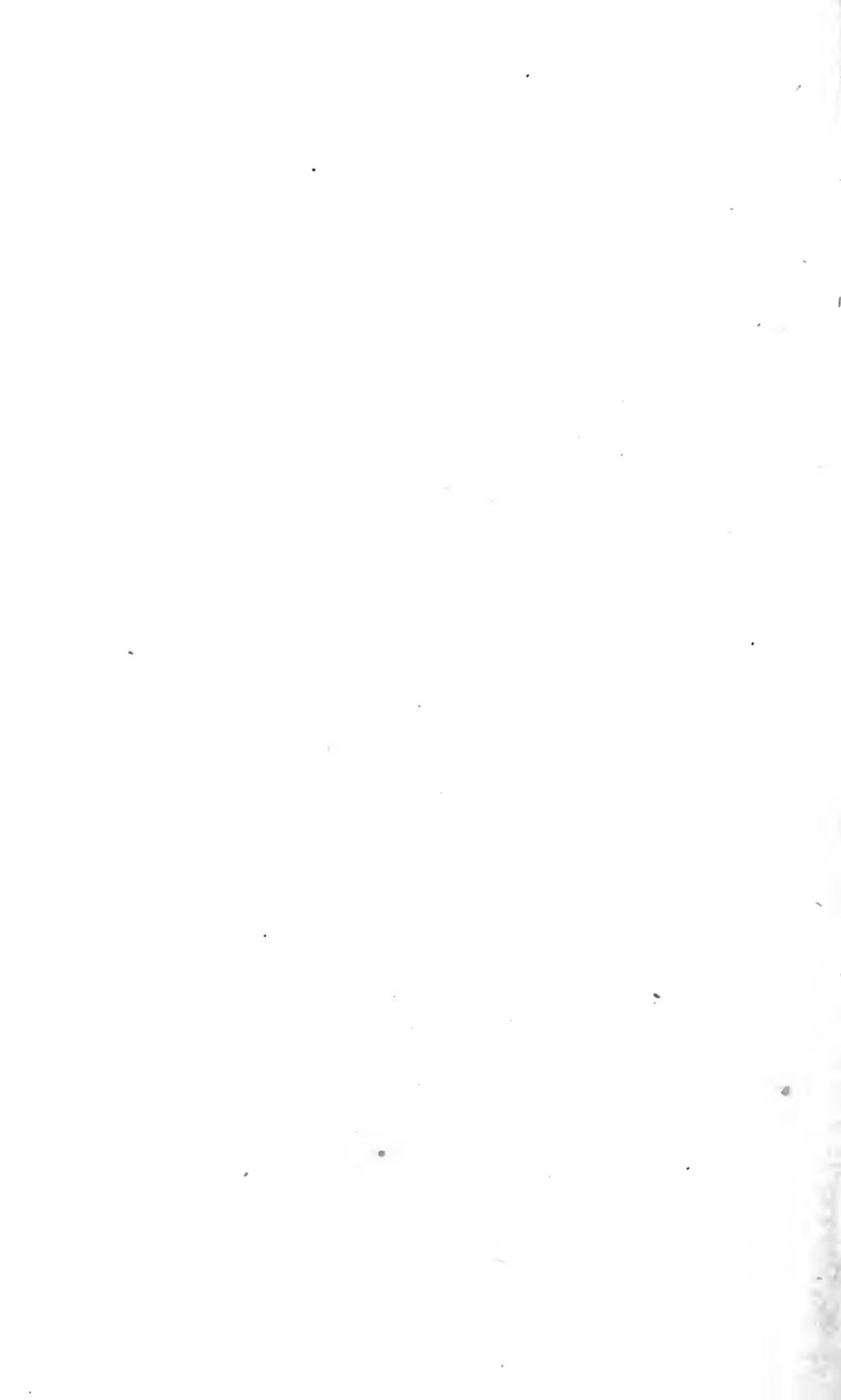
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In 1922 a number of rockshelters were examined along White river in the heart of the Ozark region of northwestern Arkansas. Fortunately these shelters were exceedingly dry, resulting in the preservation of many articles, usually perishable,

left by the prehistoric occupants, including among other things, basketry, textiles, and wooden objects. Of these the expedition secured a large collection, as well as a series of the more ordinary specimens in stone and bone. The cane basketry resembles the types characteristic of the tribes once living about the mouth of the Mississippi, but the presence of coiled basketry and pieces of feather- and rabbit-skin robes like those of the Southwest makes the relationship of this people difficult to determine.

Mexico and Central America.—Benefactors.—No aboriginal American culture was developed so highly as that of the tribes of Mexico and Central America; hence, as above alluded to, the earliest plans of the founder and Director of the Museum included the exploitation of those vast and important fields as soon as the opportunity was afforded. To this end several expeditions were made to Guatemala, Honduras, British Honduras, and Costa Rica by Professor Saville in 1913 and the years following, and the oppor-

tunity was further increased soon after the definite establishment of the Museum of the American Indian, Heye Foundation, in 1916, and the selection of its board of trustees. Ever interested in the advancement of knowledge, James B. Ford, Esq., one of the trustees, pursued his policy of aiding scientific endeavor when he assumed pecuniary responsibility for much of the research thus far conducted by the Museum in the countries to the south, as well as for rare and important collections which it has been so fortunate as to procure; and it was due to his further interest that the Central American investigations were now enlarged. These generous gifts, which have made the Museum preëminent in many ways, so far as Central America is concerned, have been augmented by Minor C. Keith, Esq., also a trustee, through his liberal donation of the largest collection of Costa Rican earthenware extant, and by Harmon W. Hendricks, Esq., likewise a trustee, who made it possible for the Museum to acquire, among other treasures, a marvelous sculptured vase from Guate-

mala—a gem of aboriginal handiwork, a description of which has been published in the form of a Leaflet through Mr Hendricks' further generosity. The importance of the Keith collection has already been manifested by a specialist who is using it as the basis of a memoir on the ceramic art of Costa Rica, to be published by the Museum.

Other Benefactions.—In the matter of other collections Mr Hendricks has been generous almost beyond measure. Thousands of priceless ethnological and archeological objects have been contributed by him from time to time—objects such as one would scarcely have believed to exist outside of museums. And not only this, for Mr Hendricks has made possible the excavation of the ruins of Hawikuh, one of the famed "Seven Cities of Cibola," occupied by the Zuñi Indians of New Mexico from prehistoric time until 1670, a work that has been in progress by the Hendricks-Hodge Expedition during the last five field seasons and which will be resumed in the

summer of 1923 under the continued charge of Mr F. W. Hodge.

Gifts by Trustees.—In this brief summary only a few of the gifts made by trustees of the Museum, important as they are, can be mentioned. As proof of the interest he has always manifested, Mr Hendricks has presented, besides those mentioned, various large collections, including numerous polychrome vessels from the celebrated Casas Grandes of Chihuahua; two Penn wampum treaty belts, procured in London; a large number of gold ornaments from Colombia; a collection of archeological objects from Tennessee, Virginia, Kentucky, and Pennsylvania; a collection of archeological and ethnological specimens from the Cho-koi tribe of Panama, and of ethnologic artifacts from the Plains Indians, gathered at Fort Laramie, Wyoming, about 1850; and a collection of native woven blankets, belts, etc., from the Southwest and northern Mexico.

Of no less importance and scientific value have been the gifts by Mr Ford, preëminent among which is a collection of seven-

teen mosaic objects consisting of wooden shields, masks, and an ear-ornament inlaid with turquoise and other stones from Mexico (described and illustrated in a special volume just published by the Museum). Until recently only twenty-four major examples of mosaic work had come to light and been placed on record by printed description and illustration. Of these, twenty-three are in Europe. The other specimen, from a cave in Honduras, is in possession of this Museum, also a gift from Mr Ford. Other gifts from this benefactor include extensive archeological collections from the California islands; the Lady Blake collection from the West Indies; many ivory carvings of the Eskimo; ethnologic objects illustrating the life of the Cree, and of the Eskimo of Hudson bay, Bering strait, and the Yukon territory; collections of antiquities from Mexico, Honduras, Guatemala, and British Honduras, the latter including a fine series of painted Maya vases; and an ancient Inca textile, a marvel of aboriginal American art.

So extensive and important are the many and varied objects given by Messrs Ford and Hendricks, in addition to their benefactions in other ways, that it is no exaggeration to say that the collections which bear their names would form a worthy nucleus for any museum. Another trustee, F. Kingsbury Curtis, Esq., has given to the Museum the important G. T. Arms collection of archeological and ethnological material from Chile; while to another, Archer M. Huntington, Esq., the Museum is indebted, in the way of collections alone, for a series of original water-color drawings of Indian subjects by George Catlin, and for other important accessions.

The Building.—Indeed, the Museum owes much to the liberality of its trustees and to their active interest in its endeavors. Crowded in its quarters in a loft building, it was Mr Huntington who made possible the erection of a fireproof edifice to house its treasures, by the gift of a tract of land adjacent to The Hispanic Society of America, The American Geographical Society, and The American Numismatic Society, while

other trustees, together with other friends of the Museum project, contributed liberally to the funds required for the building and its equipment.

Valued Contributions.—Likewise generous have been those whose only direct relations with the Museum are their interest in its aims and objects. Among these are Mrs Thea Heye, whose name is not only borne upon hundreds of valuable objects, including those forming a collection of Mocoa ethnological material from Venezuela, but who has met the expense of an expedition to Santa Catalina and San Miguel islands, California, which has been productive of collections of rare value to the study of the archeology of their former inhabitants. Among the many valuable gifts from Mrs Heye, special mention should be made of a unique specimen—the entire shrunken body of a man from the Jivaro Indians of Ecuador, the result of the same process by which the well-known shrunken heads are produced by this tribe. Especially noteworthy among the other benefactors of the Museum are: the late Miss

Edith Hendricks, who presented collections of ethnological specimens from the upper Amazon and of antique material from the Iowa tribe, as well as other objects; Mrs Charles R. Carr, of Warren, Rhode Island, an archeological collection from an historic Indian site at Burr's hill, the result of her husband's excavations; W. de F. Haynes, Esq., who contributed rare archeological objects from South Carolina and from Tennessee and adjacent states; the late W. J. Mackay, an Iroquois archeological collection from northern New York and Ontario; Rev. William R. Blackie, his collection representing the archeology of Westchester county, New York; Homer E. Sargent, Esq., and the late Mrs Russell Sage, notable collections of Indian basketry; Reginald Pelham Bolton, Esq., who not only has given various archeological specimens from New York City and vicinity, but has contributed of his valued services without stint in the Museum's field-work; Rodman Wanamaker, Esq., twelve sculptured stones from Guatemala, including a large and unique slab; Dr George Bird Grinnell, a valuable col-

lection of ethnological objects from the Cheyenne and Blackfoot tribes. Altogether, the specimens presented to the Museum since its foundation, by those connected with it only through sympathy with its endeavors, number more than 24,000.

Growth.—Study Collections.—So greatly and so rapidly have the collections of the Museum increased that they have already practically outgrown the building, consequently the collections now exhibited are only a very small part of those in the Museum's possession. Owing to these limitations of space it has been necessary to present to the public view only small synoptic series of objects illustrating, in an admittedly meager way, the culture of the Indians which they represent. But the main object of the Museum is not to appeal to the general public, welcome as it will be to view the exhibits; rather it is the aim to afford to serious students every facility for utilizing the collections in their researches. To this end there are many thousands of unique specimens in the study series, which

will always be available for this purpose and which indeed have already been thus extensively used.

Physical Anthropology.—Pursuant to the policy of the Director to expand the activities of the Museum as opportunity afforded, there has been established, as an integral part of its work and under the patronage of Dr James B. Clemens, a division of physical anthropology, in immediate charge of Dr Clemens, assisted by Dr Bruno Oetteking, which has the care and study of all skeletal material obtained.

Publication.—Following the issue of the two quarto volumes on the Antiquities of Manabi, Ecuador, the publications were confined to a series of *Contributions from the Museum*, consisting largely of articles by members of the staff, reprinted from scientific journals. In the spring of 1919, however, following his liberal patronage especially in the direction of the physical needs of the Museum, Mr Huntington contributed the means for the publication of a series of *Indian Notes and Monographs*, which not only affords an unusual oppor-

tunity for disseminating the results of studies by members of the staff and by the Museum's collaborators, but which has greatly stimulated activity in this direction. It is therefore due entirely to Mr Huntington's interest that the Museum even in the short time during which his generous gifts have been available, has been enabled to issue sixty-five works in the series mentioned, ranging in size from a few to many hundreds of pages and most of them profusely illustrated. A list of these and of the other publications of the Museum will be sent on application.



INDIAN NOTES AND MONOGRAPHS

EDITED BY F. W. HODGE

No.

34



A SERIES OF PUBLICA-
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AMERICAN ABORIGINES

LIST OF PUBLICATIONS OF THE
MUSEUM OF THE AMERI-
CAN INDIAN, HEYE
FOUNDATION

THIRD EDITION

NEW YORK
MUSEUM OF THE AMERICAN INDIAN
HEYE FOUNDATION
DECEMBER, 1922

THIS series of INDIAN NOTES AND MONOGRAPHS is devoted primarily to the publication of the result of studies by members of the staff of the Museum of the American Indian, Heye Foundation, and is uniform with HISPANIC NOTES AND MONOGRAPHS, published by the Hispanic Society of America, with which organization this Museum is in cordial coöperation.

*Museum of the American Indian,
Heye Foundation,
Broadway at 155th St.,
New York City.*

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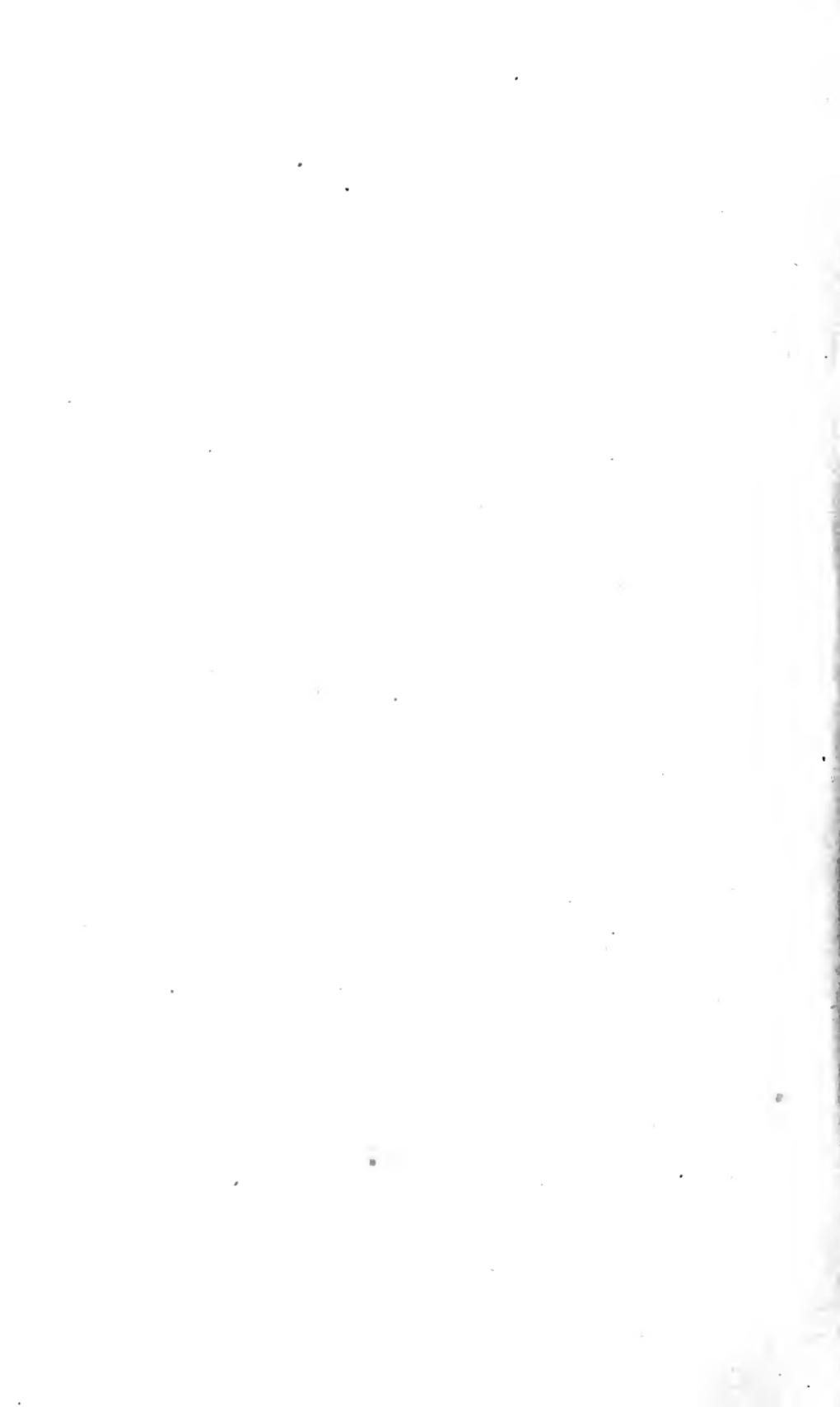


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PUBLICATIONS OF THE MUSEUM
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HEYE FOUNDATION

The George G. Heye Expedition: Contributions to South American Archeology

VOL. I

The Antiquities of Manabi, Ecuador: A Preliminary Report. By Marshall H. Saville. 1907. \$40.00.

VOL. II

The Antiquities of Manabi, Ecuador: Final Report. By Marshall H. Saville. 1910. \$25.00.

Contributions from the Museum

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No. 1: Lucayan Artifacts from the Bahamas. By Theodoor de Booy. Reprinted from *Amer. Anthropol.*, Vol. 15, 1913, No. 1. 50c.

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- (33) Aims and Objects of the Museum of the American Indian, Heye Foundation. 1922. (*Free.*)
- 34 List of Publications of the Museum of the American Indian, Heye Foundation. Third Edition. December, 1922. (*Free.*)
- 35 Jade in British Columbia and Alaska, and its Use by the Natives. By G. T. Emmons. (*In press.*)

Leaflets

1. A Sculptured Vase from Guatemala. By Marshall H. Saville. 1919. \$1.50.
2. Turquois Work of Hawikuh, New Mexico. By F. W. Hodge. 1921. \$3.00.

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Maya Indians of (Saville, ed.). INM, IX, 3
- Zuñi* breadstuff (Cushing) INM, VIII
- pueblo of Kechipauan
(Hodge) INM, III, 2
- , see *Hawikuh*



INDIAN NOTES AND MONOGRAPHS

EDITED BY F. W. HODGE

No.

35



A SERIES OF PUBLICA-
TIONS RELATING TO THE
AMERICAN ABORIGINES

JADE IN BRITISH COLUMBIA AND
ALASKA, AND ITS USE BY
THE NATIVES

BY

GEORGE T. EMMONS

NEW YORK

MUSEUM OF THE AMERICAN INDIAN
HEYE FOUNDATION
1923

THIS series of INDIAN NOTES AND MONOGRAPHS is devoted primarily to the publication of the results of studies by members of the staff of the Museum of the American Indian, Heye Foundation, and is uniform with HISPANIC NOTES AND MONOGRAPHS, published by the Hispanic Society of America, with which organization this Museum is in cordial coöperation.

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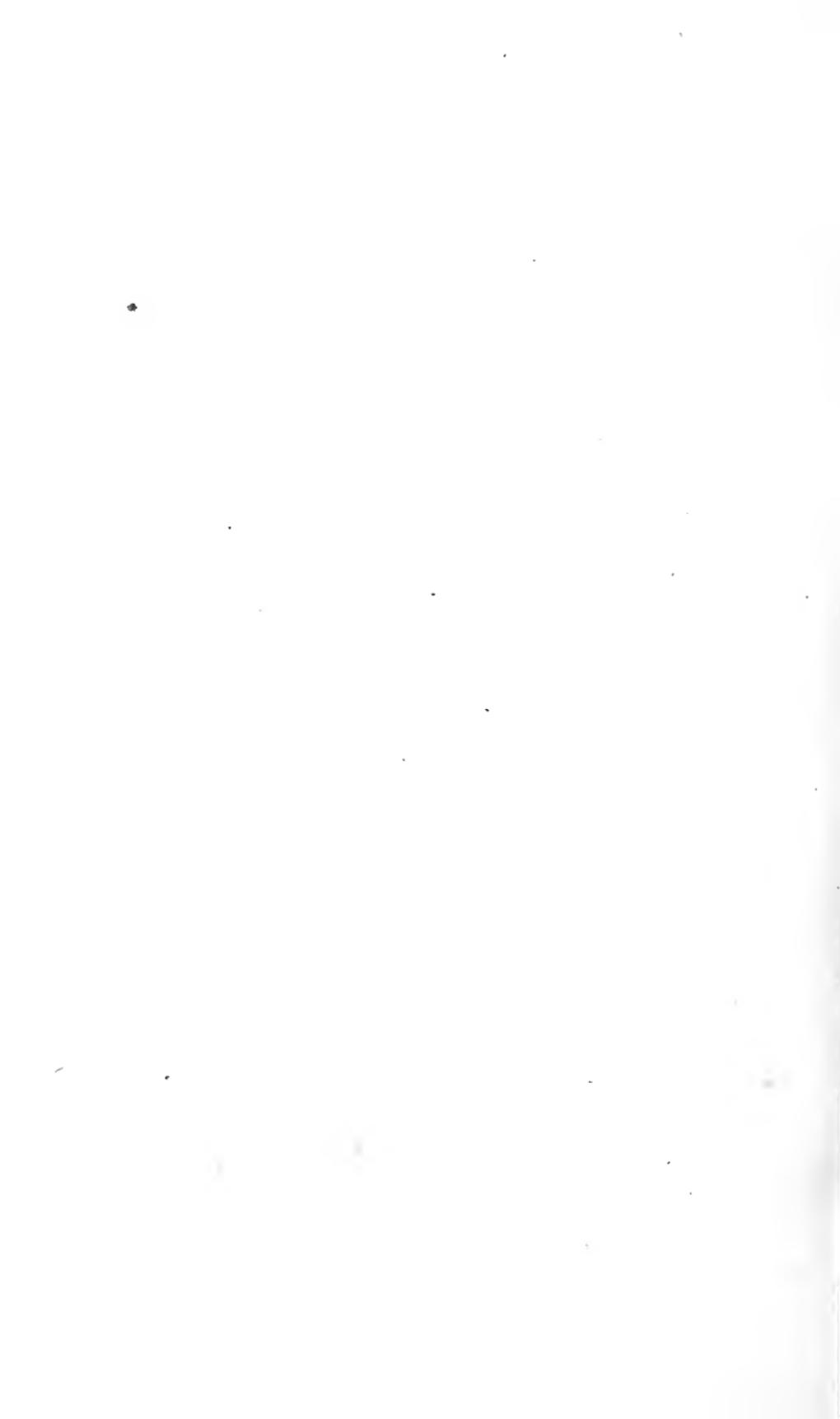
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AND MONOGRAPHS



FOREWORD

THE observations recorded in this memoir are based on a noteworthy collection of jade objects gathered by Lieutenant Emmons during many years of study among the tribes of British Columbia and Alaska, together with a few specimens belonging to other collections. The articles of jade assembled by Lieutenant Emmons, which he has deposited for exhibition in the Museum of the American Indian, Heye Foundation, are of importance not only by reason of the wide range of finished implements and ornaments which they include, but also because of the number of worked boulders and fragments that exhibit the processes of cutting and shaping. On this account the author has had exceptional facilities for conducting the study whose results this Museum now has the privilege of making available to students.

GEORGE G. HEYE,
Director.



JADE IN BRITISH COLUMBIA AND ALASKA, AND ITS USE BY THE NATIVES

BY GEORGE T. EMMONS

Lieutenant, U. S. Navy, Retired

DISTRIBUTION

T MAY be well to mention at the outset that the following notes were prepared as an introduction to and a partial description of a collection of jade gathered by the writer in British Columbia and Alaska. The term "jade" is employed throughout the paper in a general sense, and therefore includes both nephrite and jadeite, except when exact determination of the material has been made by analysis.

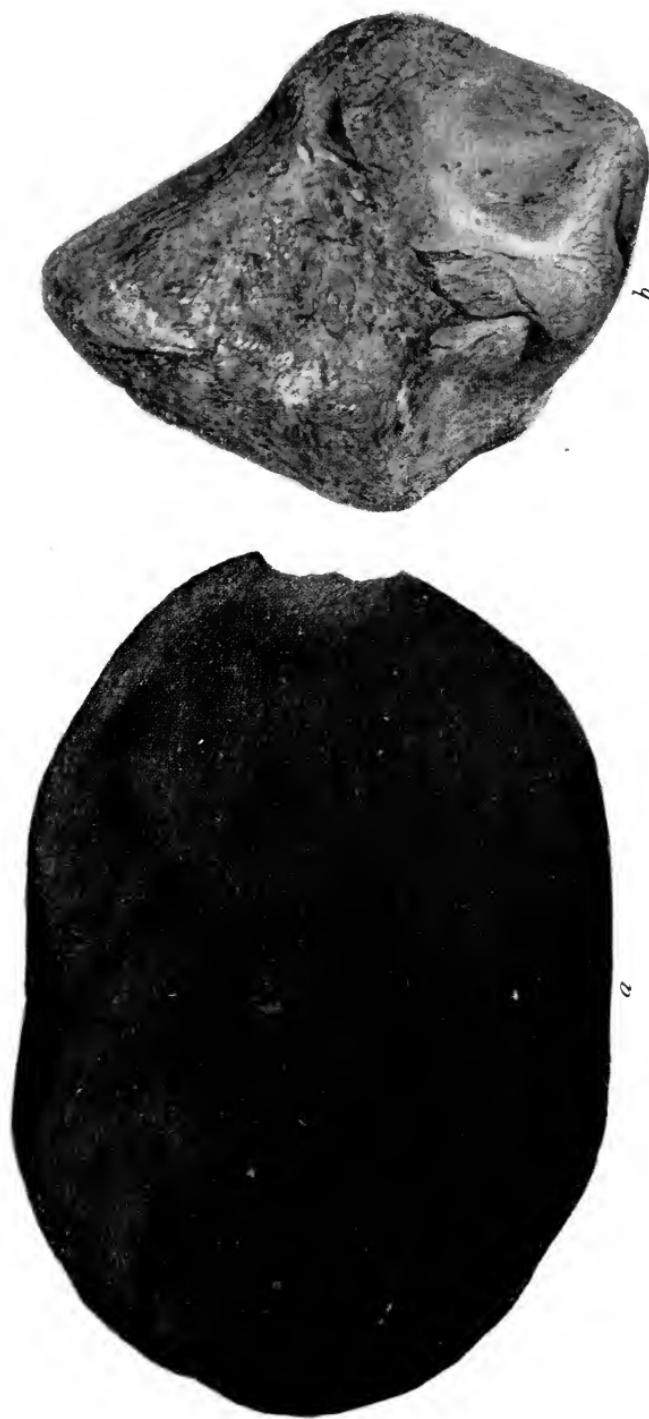
The occurrence of implements of jade in considerable numbers throughout the Northwest coast, and along Bering sea and

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the Arctic shores of America, was a much discussed subject of equal interest to both geologists and archeologists for many years, until the mystery was solved by the discovery of the so-called Jade mountains in Alaska by Lieutenant Stoney,¹ of the United States Navy, in 1883, followed by the report of Dr Dawson,² of the Geological Survey of Canada, in 1887, on its occurrence in British Columbia, since which time little additional information has been contributed. These proximate centers unquestionably served the needs of the coast people, and the Fraser and Kowak rivers offered convenient means of transportation to the sea, where it was traded from tribe to tribe. From these widely separated localities, British Columbia supplied the coast from the Straits of Juan de Fuca to Bering bay, and the Jade mountains from the Aleutian islands to the mouth of the Mackenzie. This left an intervening section of coast about midway between these sources of supply, where little or no jade has been discovered. Odd bowlders of jade have been found in

PLATE I

- a.* Oval, flat pebble of deep-green jade. Worn as a charm or an ornament by a Salish woman of Bridge river, British Columbia.
- b.* Pebble of jadeite, remarkable in color, from Stein, Fraser river, British Columbia.



Washington, and as far north as Lewis river, a tributary of the Yukon. At the mouth of the Fraser, on the contiguous islands, and on the eastern shore of Vancouver island, cut bowlders and celts of jade have been found in considerable numbers, having unquestionably come down the river through centuries of trade, and possibly through migration. With more extended knowledge of the several mountain systems paralleling the coast, there is every reason to believe that under favorable geological conditions jade will be discovered throughout an extended area; but this will not controvert the fact that the material, both crude and finished, found along the coast of British Columbia and southern Alaska, came from the Fraser River district. The writer has made extended trips inland on the Skeena, Nass, Stikine, and Chilkat rivers, during which he found no evidence of local deposits as known to the inhabitants, no single rough or worked bowlders, and a noticeable scarcity of celts.

In British Columbia the area abounding in jade, as known to us from the amount collected, is the valley of the Fraser and its tributaries from Lytton northward for about thirty miles. Its source is believed to be in the bordering mountains, although as yet it has not been found *in situ*, and our knowledge of it is confined to the water-worn and sand-polished bowlders of moderate size found along the shores of the rivers, in the beds of the smaller mountain streams, and throughout the placer-fields laid bare by the mining operations of 1858.

From old village and camp sites and the sand burial mounds, great numbers of partly worked bowlders, cutting tools, and finished implements have been unearthed, and other pieces have been found in possession of the older people, which have descended to them from the past. Jade in both the rough and the finished state was the most valuable article of trade possessed by the natives. Their country was poor in animal and plant life, and salmon, their staple food, while abundant.

PLATE II

Polished boulder of homogeneous dark-green jade, exhibiting cutting grooves on both broader faces, one longitudinal, the other transverse. Found on the north bank of Fraser river, near Lytton, British Columbia.



was taken with much difficulty from the swift-flowing, confined waters of the river.

HOW REGARDED BY THE INDIANS

Among the older Salish on Fraser river the writer saw preserved rough and worked boulders, and even fragments of implements that they had dug up in the fields and to which a fictitious value was attached. From two men were purchased, not without difficulty, several small, beautiful, deep-green pebbles, which were kept with personal belongings. Such are said to have been worn suspended from the neck as ornaments by girls and women in earlier days. In fact, another very beautiful, bright green, translucent jade pebble (pl. I, a) was procured from an older woman of the Lillooet band at Bridge river which she wore about the neck when a girl as a charm and an ornament. At the village of Stein, on the Fraser above Lytton, was found treasured by an old man a small pebble of a milky-white color, splashed with bright green (pl. I, b). It was examined by Drs Laufer and Farrington,

and pronounced by them to be a remarkable piece of jadeite from this locality, very fine in quality and color, with a specific gravity of 3.35.

There is no known instance of the working of jade by the Salish for ornamental purposes, as among the Eskimo. Among the Salish, jade or serpentine is called *sokalä'ist*, from *stokalait*, 'green;' *äist*, 'stone,' according to Mr James A. Teit, of Spences Bridge, British Columbia.

Among the Tlingit of both sexes it was the custom to wear, in like manner, a small object, generally of carved stone, for scratching the head and body, and in three instances pieces of jade so worn were found which the wearers regarded as of greater value than like articles of other stone. One of these was a small, broken adze, in bargaining for which a year was spent.

Great value was attached to jade on account of its physical properties. Its strength and toughness combined to make it highly suited to the manufacture of keen-edged tools for carving, as the working

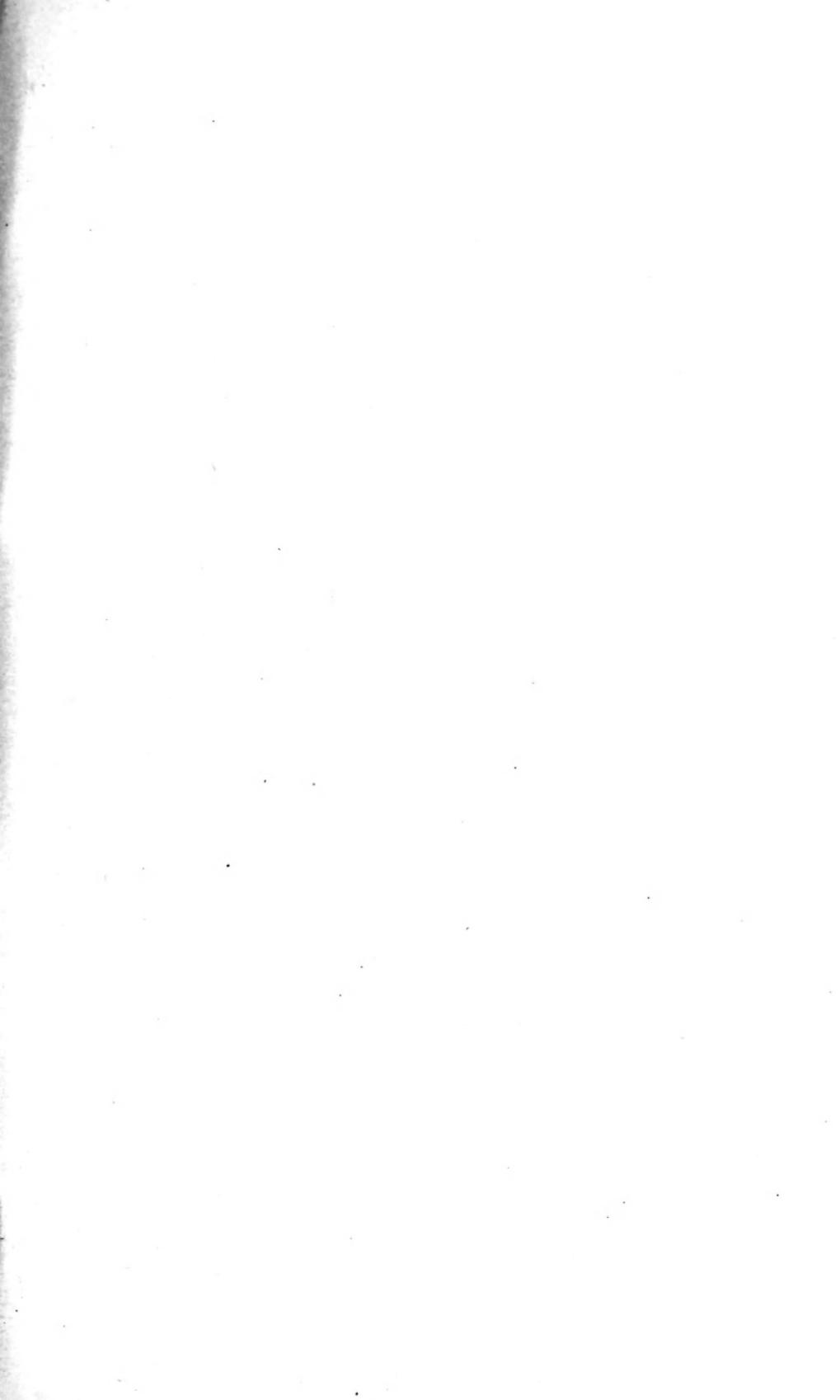
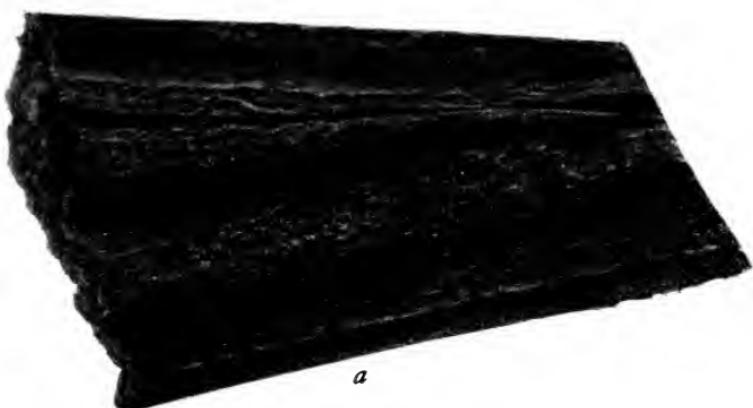


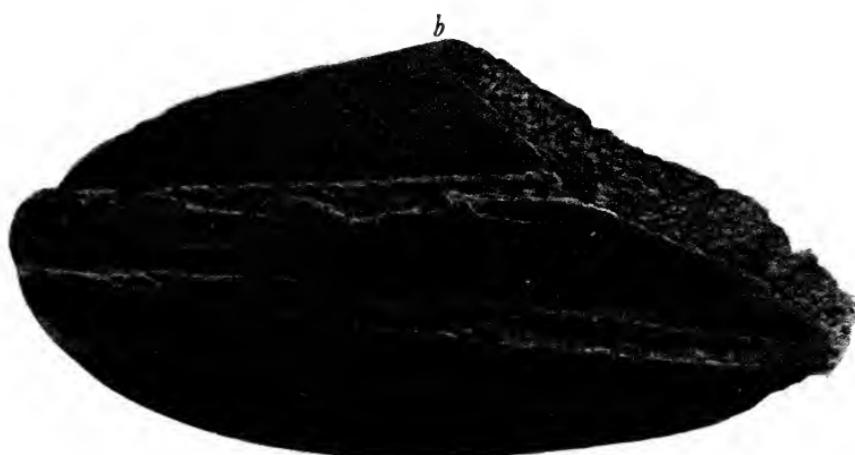
PLATE III

a. Core of a boulder of deep-green jade, mottled and veined, found twelve feet underground in washing for placer gold on Fraser river, near Yale, British Columbia. It exhibits five polished faces, eight grooves, and four rough ridges from which sections have been separated for the manufacture of implements.

b. Water-worn boulder of deep-green, mottled jade, found in an old burying-ground at the mouth of Thompson river, British Columbia. On one face it shows three broader and two narrower grooves, and two broken ridges from which sections have been taken. One of these ridges would seem to indicate that the section was broken transversely in the process of separation.



a



b

of iron was unknown on the coast before the coming of Europeans. Jade had no religious significance, nor was it regarded with superstition; but aside from its material worth, a certain sentiment seemed to attach to it wherever found.

EARLY REFERENCES

Possibly the first reference to the occurrence of jade on the Northwest coast is by La Perouse,³ in the extract of the narrative of the Spanish pilot Maurelle describing the natives and their implements as seen in the port of La Cruz, in Bucarelli sound, on the west coast of Prince of Wales island, in 1779. Herein is a reference to "small hatchets of silex, or greenstone, so hard as to cleave the closest wood without turning its edge."

USES

The coast tribes from Vancouver island northward to Bering bay—the Kwakiutl, Tsimshian, Haida, and Tlingit—were pre-eminent among the aboriginal woodworkers of the continent, as attested by their sub-

stantial houses, ornamental carvings, totem-poles, and canoes dug out of giant cedars—wonders of marine architecture. Before the introduction of iron, all of this work was executed with stone tools, of which the jade celt was the most important. Among the Tlingit, the value of a jade adze-blade two or three inches in length was from one to three slaves. When its owner used it, his wife should refrain from all frivolity, as any unbecoming conduct on her part might cause the blade to break.

That some of these coast people worked jade is proved by the finding of cut bowlders and sandstone tools about the mouth of the Fraser and along the eastern shore of Vancouver island; but farther north, while celts have been found everywhere, few natural or worked bowlders have been discovered, and, so far as known, no cutting tools. Dr Newcombe, of Victoria, informs the writer that he possesses a cut bowlder of jade that was found at Fort Rupert while digging at an old house-site. Among the Tlingit, throughout southeastern

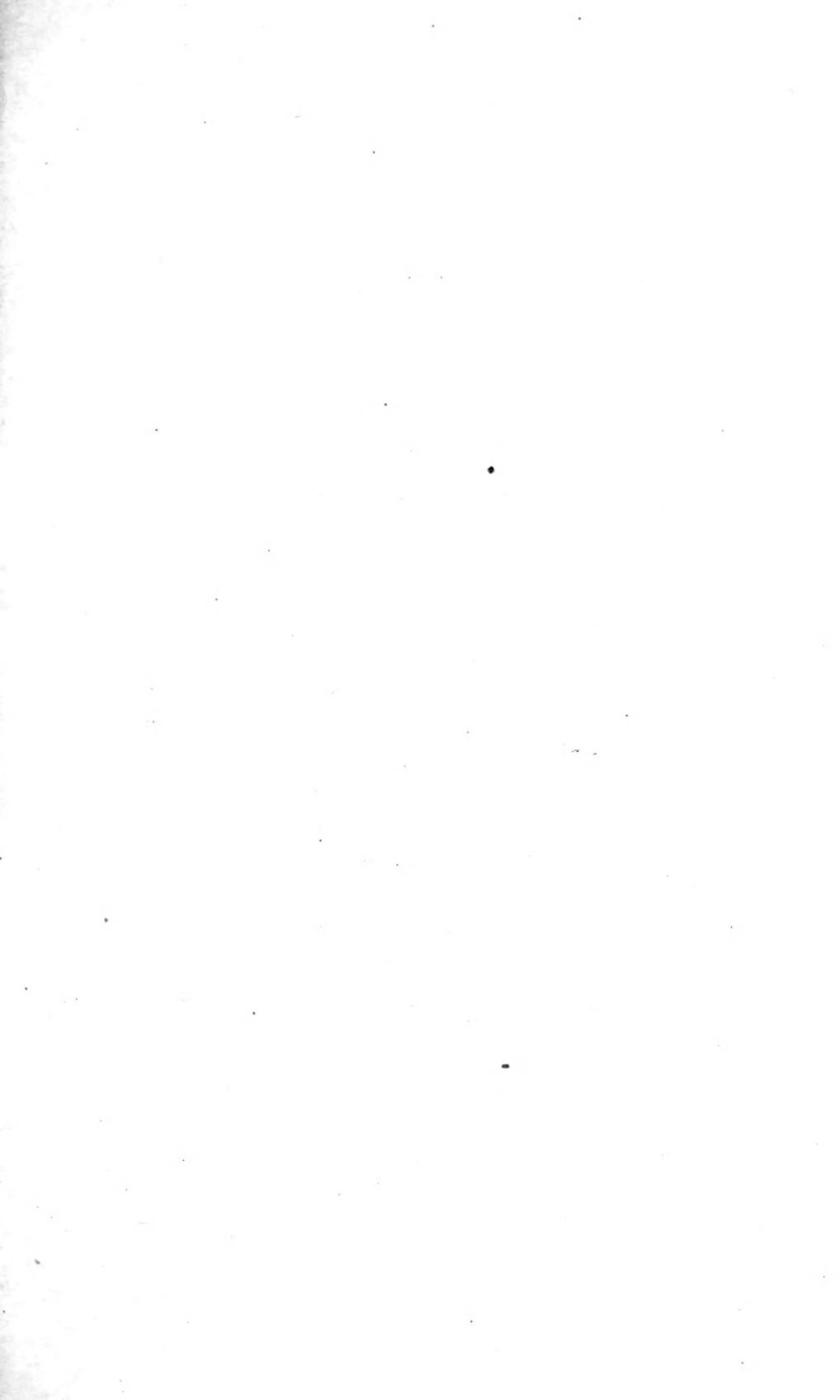
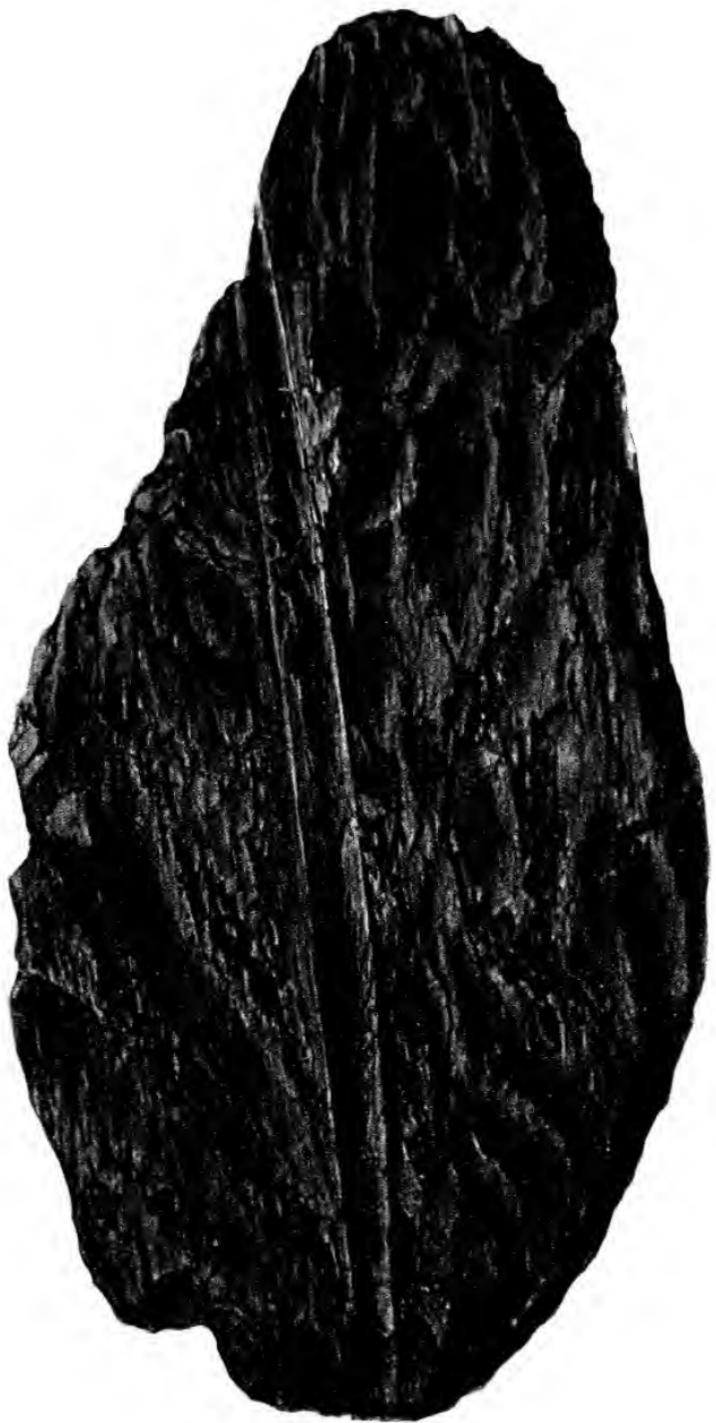


PLATE IV

Worked section of bright-green jade, veined and mottled with black-green. It has been worked down on both sides, producing a uniform flat section. On one face a shallow groove extends longitudinally, and on the other face the commencement of a corresponding groove may be traced. It was dug from the site of an old living-place on the north bank of Fraser river, ten miles above Lytton, British Columbia.





Alaska, during a period of more than twenty years the writer observed no saws or other tools for working the raw material, and but two cut bowlders of jade. Of these, a small grooved specimen was in possession of a native at Chilkat; the larger piece, from which two sections had been sawed, was dug from an old house-site in the present native village of Sitka. The older natives knew what it was, but could give no information regarding its position; for the site at which it was found has been occupied only since 1821, during which time these people, in intimate contact with the Russians, have been supplied with iron and steel which superseded the earlier stone-edged implements.

The Tlingit call jade *tsu* ('green'). From the more intelligent older people questioned in 1882, little could be learned. The Tlingit generally agreed that it was obtained in trade from the south, and that it was found in the form of bowlders in mountain streams of the interior. One old man, however, claimed that in very early days it was procured from a glacial

stream flowing from the Mount Fairweather range, which later was covered by the advancing ice.

The jade celts used as adzes by the Tlingit were, like the smaller ones, found on the Fraser. It is generally believed that they were procured in finished form.

SUPERSEDED BY METAL

The culture of the early inhabitants of the valley of the Fraser, as read from archeological objects dug from old village-sites on the river benches, continued to recent times with little variation from that of the Salish people met hereabouts by the early European visitors, who brought them our products, particularly iron, that put an end to the laborious manufacture of edged tools of jade. The sudden transition from stone to metal seems evident in the number of partly cut boulders of superior quality showing deep grooves on each face, almost separating the halves, but left unfinished. The only definite statement as to the period when celts were last made was given to the writer by a man about sixty years of

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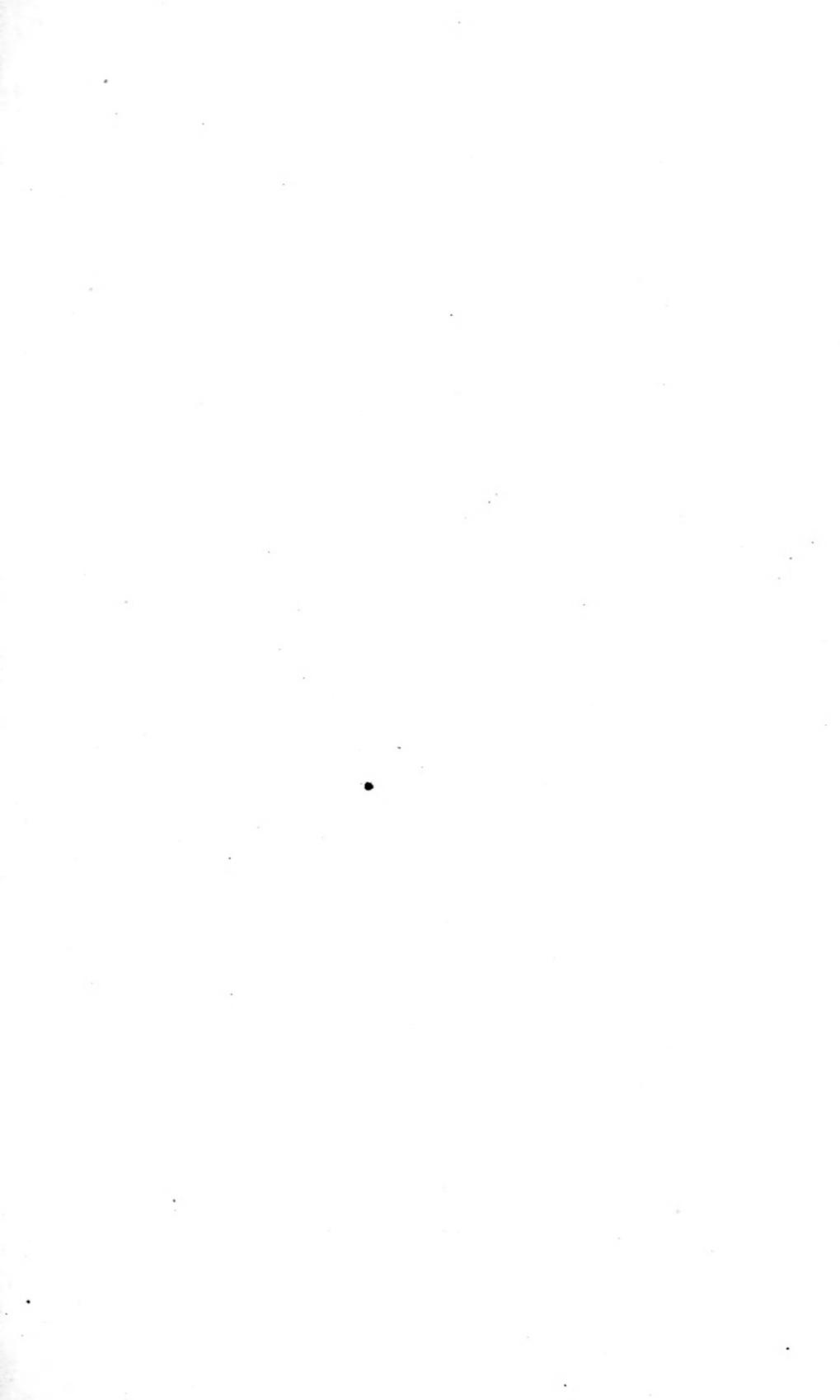


PLATE V

Worked, water-worn boulder of light-green, mottled jade, from which one longitudinal section has been sawed off and a parallel groove has been commenced for the purpose of separating another section. Found at an old village-site on the north bank of Fraser river, about six miles below Lytton, British Columbia.



age, from whom was procured a fine blade of jade which he said his father had made. This would date the blade at about the period of the introduction of iron.

CHARACTER OF THE JADE

In density and structure the Fraser mineral shows much variation, dependent on its purity or admixture with serpentine or other foreign substance, for serpentine is found in great abundance with it. In color, green prevails, with shades varying from grass-green to almost black, showing veins, splotches, mottled patches, and specks generally of a darker, sometimes of a lighter, color, partly the result of iron-stains that have penetrated the minute cracks, or of other impurities. Some pieces are beautifully translucent, while others are clouded and quite opaque. But all take a high polish; even the boulders found in the streams have a smooth, bright surface, and few exhibit decomposition. Not all the greenish implements found hereabouts are of jade or nephrite, for serpentine and pectolite were likewise utilized.

SHAPING PROCESSES

The cut bowlders are most interesting, and the great number of sandstone saws found with these definitely show the process of working them. The heavier, thicker, more irregularly shaped bowlders were sawed longitudinally in parallel grooves, two or three inches deep, as shown in the illustrations (pl. II-v). In one of the grooves a wedge was fitted in such a way that, when sharply struck the impact bore on the entire length of surface with equal pressure, resulting in a lengthwise cleavage. But that this fitting of the wedge was not always perfect, may be seen in certain fractured ridges. This, of course, was a great loss, as the value of an implement depended largely on its length.

The initial cutting was accomplished by means of saws of a sharp silicious sandstone, and water. These saws were of varying length up to twelve or more inches, but being brittle they are generally found in smaller, broken pieces. They were three or four inches wide and from a quarter to

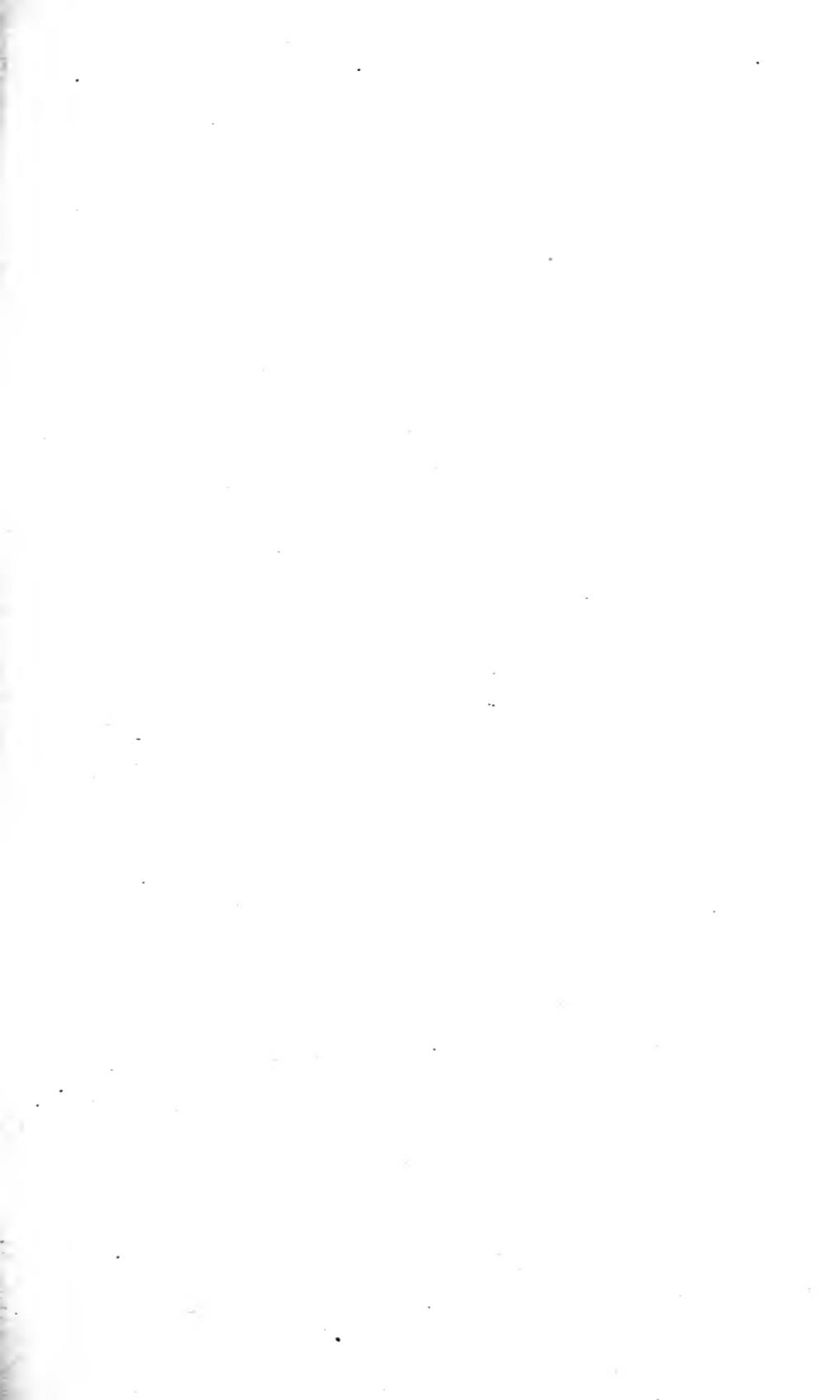


PLATE VI

a. A perfect specimen of the long "property" celt; it is of homogeneous, deep-green jade, and was dug up at an old living-place on the north bank of Fraser river, above Lytton, British Columbia. The longitudinal edges show narrow grooves.

b. Axe blade of dark reddish-brown jade. The cutting edge has a sharp, short bevel, exactly like that of a broad-axe. It was found in the ground near Lytton.

c. Adze blade of translucent blue-green jade, showing a sharp bevel on one side at the cutting edge. Found on an old village-site on the north bank of Fraser river, five miles below Lytton.

d. Celt of dark-green mottled jade, found buried three feet under the roots of an old tree at Indian Head, near Victoria, British Columbia.



b



c



d



a

half an inch in thickness. The cutting edge was sharpened, but in use it became rounded. Some saws were double-edged. The striation along the grooves of cut boulders is complementary with the gritty particles of the saws. It has been stated or suggested that the smooth surface to be cut was first scratched or roughened with a quartz crystal to give the saw a "hold." This may be questioned, for, in an examination of several incipient grooves, they show the width of the saw and no fine scratches such as the point of a crystal would make on a smooth, irregular surface; besides, quartz crystals are not abundant throughout this locality. Again, it is said that *equisetum* was used to roughen the surface.

Flat, thinner boulders were cut by scoring a deep groove in each face, and broken apart by a sharp blow or with a wedge driven in the groove. After separation, sections were shaped and worked with grindstones of sharp sandstone, and water; these stones, so far as could be determined, were finer in texture than the saws. The

process of working can be plainly followed by an inspection of the surfaces, but the scratches are so fine that they do not interfere with the general polish that the rubbing gave, which is the same as that of the grooves or the faces of cut bowlders, although some claim that equisetum was used to give an extra polish.

According to Mr Teit, jade worked into shape is called *steū*, or *steūu* ('worked'), *sokalä'ist* ('greenstone'); but this term is more often applied by the Salish around Lytton to the long celt. Adzes of any kind are called *xoisten*; a jade or "green-stone" adze, *sokalä'ist tek xoisten*.

CELT S AND CHISELS

Jade implements from the Fraser river section consist almost entirely of celts, with a few knife-blades and drill-points.

The celts, from their length, shape, and manner of use, may be placed in three classes, as follows:

The very long, finely finished, chisel-like blade, straight, or tapering slightly from the edge to the butt, and from six to sixteen

INDIAN NOTES



PLATE VII

a. Implement made of translucent, bright-green jade. From its sharpened and rounded edges at both ends it would seem to have been used as a warclub lashed to the end of a short handle, or as a skin-scraper used in the hand. It was procured from a Salish Indian of Fraser river, British Columbia.

b. Chisel-like celt of whitish-yellow jade, veined with green, tapering on one lateral side from base to cutting edge, which latter is beveled on both sides, and having a smoothed butt. Used as a hand tool, or possibly as a warclub. Found on the south bank of Fraser river, near Lytton, British Columbia.



a



b



inches in length, are characteristic of the Fraser river territory. They were made by no other people than the Salish, and were not traded to any distance. They are generally finished throughout their length, except at the base, which, though smoothed, more often exhibits the irregularity of the cut section. In some specimens, however, the base is brought to an edge. These pieces, wherever found, usually show little evidence of wear. The sharp cutting edge is more often intact, hence it is claimed by the natives that they were not made primarily for use, but represented "property," of value according to their length and quality. But certainly some were used for other purposes. One piece obtained from a native who had just dug it up on his farm on the north bank of the Fraser, about seven miles above Lytton, had been put to hard usage, as the dulled, splintered edge shows. It is a heavy implement 15 in. long, $2\frac{1}{4}$ in. wide, and $\frac{3}{4}$ in. thick. The faces and one lateral edge where it was cut from the boulder are finished; the other edge is in the rough, show-

ing the broken ridge. The base is irregular in shape, and smoothed. Such long celts never could have been hafted as adzes, and if used for woodworking could have been employed only as hand chisels, while those sharpened at both ends were possibly war implements. The best explanation of this class of celts has been given to the writer by Mr Teit and is added with his permission:

There are three sizes and shapes of jade tools you mention. The long celt [pl. vi, a] was not hafted as a common adze, and it seems that at least most of them were not used as tools at all. You will notice that many of them, at least, have no *properly prepared end* on which to strike, this end being sometimes more or less convex, sometimes irregular in outline, and generally more or less narrow and thin; also some of these long celts are double-bitted. All this would seem to show these celts were not intended as a rule to be used as chisels, adzes, or wedges. According to the old Indians these long celts were "property", and good ones exchanged for considerable value. Some of them were occasionally used as chisels or wedges, in such cases being held, it seems, in the hand, and struck with hardwood mallets. The Indians aver, however, that generally speaking they were not made for any special use as tools. Occasionally they were also used in

PLATE VIII

a. Knife of bright-green, translucent jade, with fine black specks. It has a narrow groove along one lateral side, a rounded, smoothed butt, and is beveled on both faces of the cutting edge. Found in a burial mound on Fraser river, near Lytton, British Columbia.

b. Knife of opaque, dark gray-green, veined and mottled jade, tapering slightly toward the butt, oval in cross-section, the faces equally convex. The convex cutting edge exhibits a double bevel on one side, and is straight on the other. Found near Lytton, British Columbia.

c. Knife of homogeneous, deep-green jade, leaf-shaped, with one cutting edge rounded to a dull point, but originally beveled more on one side than on the other. From a grave on Fraser river, near Lytton, British Columbia.

d, e. Two tiny chisels of bright-green jade used in etching and finer carving. From Lytton, British Columbia.

f. Chisel of green jade, slightly beveled on one face. Found in a burial mound on the north bank of Fraser river, across from Lytton, British Columbia.



the hand, for rubbing skins, but it seems their use for this was also rare. More often they were used as weapons, being hafted as tomahawks across the end of a wooden handle, in which they were inserted or set [fig. 1]. It is said, however, that they were not made especially for this purpose, but were "property," or works of art, as it were, exchanging for high values.

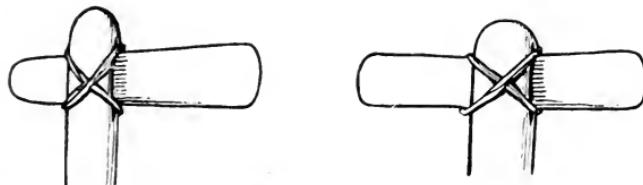


FIG. 1.—Method of hafting celts.

Celts of the second class, ranging from four to five inches in length, are broader of blade and proportionately heavier for their size (*pl. vi, b, c*). They taper slightly to the base, which is almost always irregular in form, sometimes rough, but generally wholly or partly smoothed; otherwise they are finished, except where a natural break occurs, while the cutting grooves are more often visible along the lateral sides. The faces generally show a slight convexity, tapering to the ends. Both faces are generally beveled to form the cutting edge, one slightly and round-

ing, the other deeply, at from a half to three-quarters of an inch from the edge, as in the case of a chisel. The cutting edge shows a slight convexity, which may be the result of wear, for often small breaks and dulled edges are seen at the ends; but in many specimens the cutting edge is slanting—intentionally so finished, from all appearances—in which case the tool was made for some special work. Where the edge is markedly rounding, the implement was used as a skin-dresser, or as a warclub. This constituted the broad-axe or adze for general woodworking, not only here but wherever found throughout the Northwest; it was the most generally distributed and important of all tools. It was hafted to a short, bent-wood handle—the limb of a tree with a small section of the trunk remaining—to which the blade was fitted and securely lashed. It is needless to add that celts so used are never double-bladed.

The third class of celts presents more varied forms. These were essentially chisels, used in wood- and bone-working, and

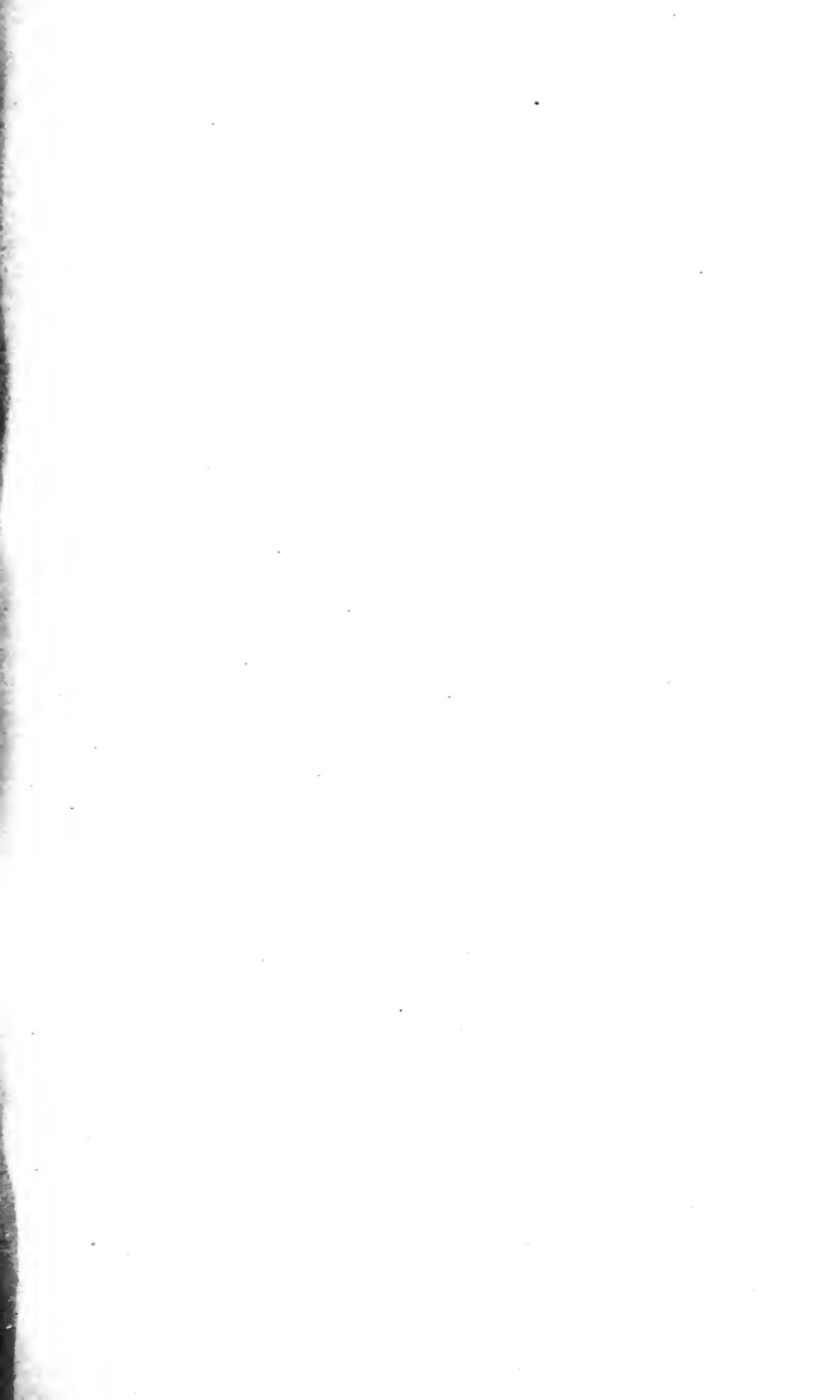


PLATE IX

- a.* Bowlder of translucent blue-green jade, oblong, rounded worn ends, used as a hand-hammer. Found on an old village-site on Fraser river, opposite Lytton, British Columbia.
- b.* War-pick of homogeneous, deep-green jade, with slight veins of a darker color, exhibiting a central ridge along the lateral sides, gradually decreasing toward the curved end. The head or cutting edge is convex, and stands vertical when mounted. From the Stikine tribe of Tlingit, near Wrangel, Alaska.





for carving. The short, heavier blade, a smaller type of the adze, was inserted in the end of a short, straight section of elk-horn or wood (fig. 2), and possibly it served as a skin-dressing tool, as well as a chisel.

A fine bright-green jade celt (pl. VII, *a*), which had been sharpened with a rounding edge at each end (one end is broken), must have been used either as a skin-dressing implement or as a war-club lashed to the end of a wooden handle. It was collected many years ago at the mouth of Fraser river.

Long, slender, finely-finished blades might have been fitted in complementary grooves in wooden or bone handles, and secured with a seizing; but some of these are so finished and smooth at the base that they suggest hand tools. Two tiny chisel blades of light-green jade, an inch and a half long, and

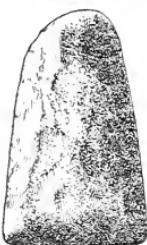


FIG. 2.—
Method of in-
serting chisel
in bone han-
dle. Salish.

scarcely an eighth of an inch in thickness (pl. VIII, *d, e*), which were dug up on the bank of the Fraser river near Lytton, must have been fitted and lashed to the ends of short handles and used in fine ornamental carving. Some of the shorter, heavier celts which show a slightly splintered and well-worn butt, may have been used as wedges in conjunction with a wooden hammer. The one shown in pl. VI, *d*, found buried three feet under the roots of a large tree at Indian Head, below Victoria, on Vancouver island, suggests this use, from its thickness and worn head.

A heavy, narrow, chisel-like celt, also shaped quite differently, in its proportion to the general type of celts found here, is shown in pl. VII, *b*. It is whitish-yellow in color, veined with green, and is finished throughout its length, tapering on one lateral side from base to cutting edge, which latter is beveled on both sides. The butt, while irregular, is smoothed, and it has the appearance of having been used in the hand, or possibly it might have been employed

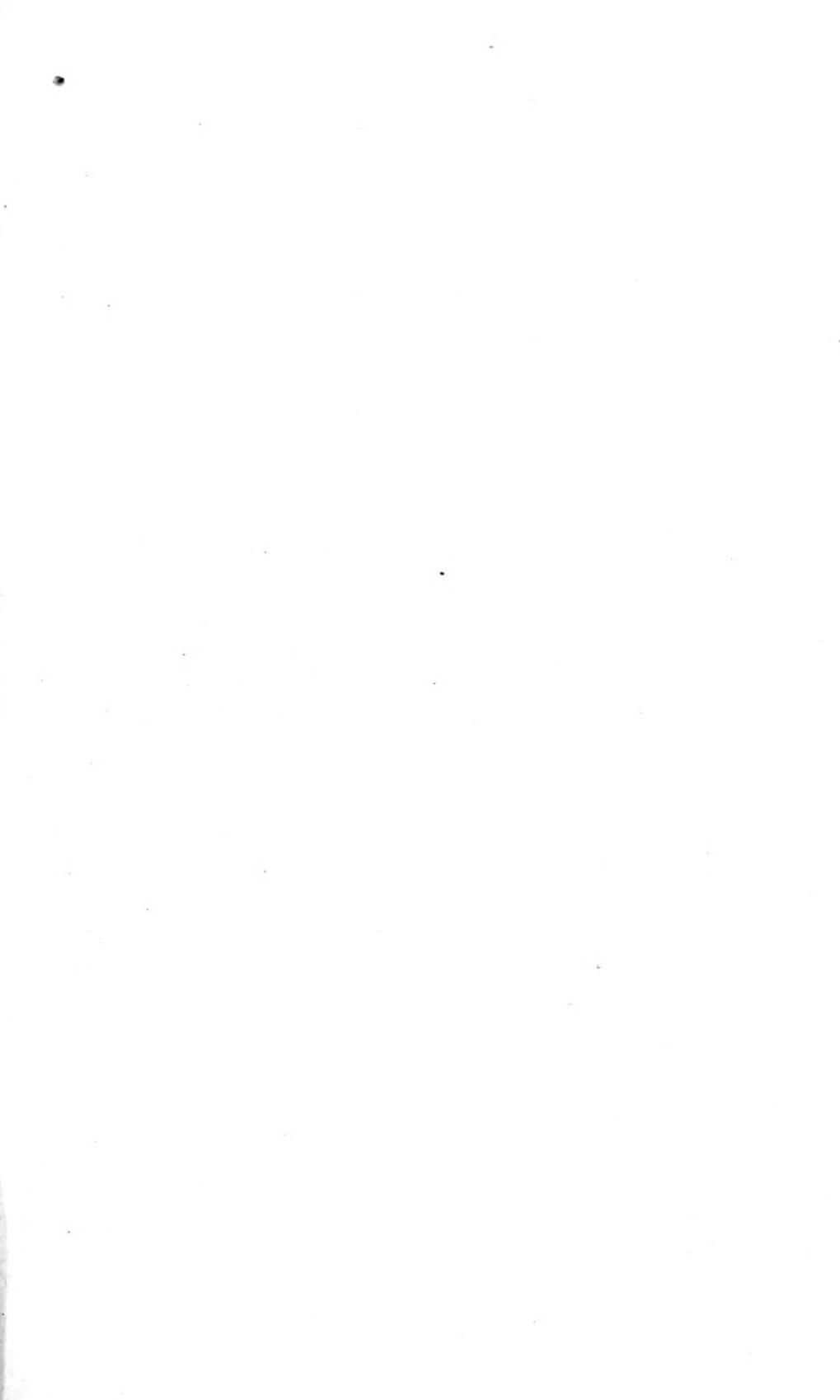


PLATE X

War-pick of bright-green, translucent jade, hafted through the end of a wooden handle. Collected at Sitka, Alaska, and now in the United States National Museum at Washington.



as a warclub, the butt being inserted in the end of a wooden handle. This specimen was found on the south bank of the Fraser, near Lytton.

A chisel of more delicate proportions, finely finished throughout its length, symmetrically tapering to a point at the butt, slightly oval on one face and beveled on both edges of the other, would seem to be of the type that was inserted in a handle of bone or of wood. The specimen illustrated (pl. VIII, f) was dug out of a burial mound on the north bank of the Fraser river across from and above Lytton.

The Salish hereabouts designate a chisel as *manāu*, and a jade or "greenstone" chisel as *sokalä'ist tek manāu*, according to Mr Teit.

KNIVES

In addition to celts, there have been found a limited number of knives, drill-points, and odd pieces, as above mentioned. Pl. VIII, a, illustrates a fine specimen of knife of bright-green, translucent jade, flecked with black; it is $3\frac{3}{4}$ in. in length,

1 $\frac{1}{8}$ in. in width, by $\frac{3}{16}$ in. thick, and is slightly oval in cross-section. This implement, which was found on a sand burial mound on Fraser river just above Lytton, is finished throughout, but shows a narrow groove along one lateral side. The cutting edge, which is at an angle of 25° with the lateral sides, is beveled on both faces. Judging by its shape and its rounded, smoothed butt, it was evidently a hand implement, not hafted.

The knife shown in pl. VIII, b, somewhat similar in shape, is of an opaque, dark gray-green, veined and mottled jade, and is also from the Lytton district. It is neatly finished throughout its length, and tapers slightly toward the butt. In cross-section it is oval, the faces equally convex. The cutting edge is convex and at an angle of 45° with the lateral sides, showing a double bevel on one side, and is straight on the other. It is probable that this knife was not hafted, but was used in the hand. It is 4 $\frac{9}{16}$ in. long, $\frac{5}{8}$ in. wide, and $\frac{3}{16}$ in. thick at the middle.



PLATE XI

- a.* Hafted adze, consisting of a blade of yellow-green jade inserted in the end of a piece of bone, which, ornamentally incised with six parallel bands in black on the under side, is lashed with seal-hide to a handle made from the penis-bone of a walrus. From Point Barrow, Alaska.
- b.* Hafted adze, consisting of a blade of reddish-green jade inserted in the end of a section of caribou-horn, which is lashed with seal-hide to an ornamentally cut wooden handle. From Nome peninsula, Alaska.



To what purpose these two knives were put is not known. From the angle of the sharpened edge they would seem particularly adapted for cutting skins, but this was ordinarily done with chipped basalt blades.

Pl. VIII, *c*, exhibits a knife of an entirely different type: it is of a homogeneous, deep-green jade, leaf-shaped, with one cutting edge rounding to a dull point, and is suitable for cutting fish, or as a skinning implement. The upper end has been somewhat broken and shortened, and from its size and shape it was evidently set in or secured to a handle. The edge is dulled from use, but shows where beveled slightly more on one side than on the other. It was dug up from an old grave on the south bank of the Fraser, just above Lytton. Dimensions, 3 in. long, $1\frac{3}{8}$ in. in greatest width, and $\frac{1}{8}$ in. thick.

DRILL-POINT

The only drill-point seen was of bright-green jade, about an inch and a quarter in length (fig. 3); it was found in digging

on the north bank of the Fraser, two miles above Lytton, and it is understood that another has been found thereabouts.



FIG. 3.—
Drill with
wooden han-
dle. (Length,
 $10\frac{1}{4}$ in.)

HAND-HAMMER

The oblong, light-green jade boulder illustrated in pl. IX, *a*, found near an old living-place on the north bank of the Fraser, just above Lytton, is believed, judging by its worn ends, to have been used as a hand-hammer for domestic purposes.

WAR-PICKS

An interesting question arises regarding the war-pick, the handsomest and most perfectly finished form of jade implement known to the Northwest coast. This type, from 8 in. to 17 in. in length, preferably of any hard, close-grained stone, is common to the Tsimshian, Haida, and Tlingit; it is

PLATE XII

hafted adze consisting of a blade of yellow-green jade
seized to a handle of caribou-horn with whalebone. From
Kotzebue sound, Alaska.



hafted through or at the end of a short, stout, wooden handle, and is essentially a warclub. The Tsimshian call it *nascah* (killer); the Kitikshan of the upper Skeena, *darees*; the Tlingit, *ka-too* ('turned up'). But made of jade it was very rare, and being the most highly valued of stone pieces, it was possessed only by a few of the greater chiefs. From the fact that it was used on ceremonial occasions to kill slaves, the term "slave-killer" has been applied to it by collectors. The writer can account for six of these implements, and possibly others, gathered by early explorers, may be found in European collections.

A description of one in the writer's possession (pl. ix, b) will answer generally for the others. This was an hereditary piece in the family of the Tahlqwayde, or Tahlkoedi, of the Stikine tribe of Tlingit, living at Wrangel. On the marriage of the headchief's daughter to Choquette, a French Canadian in the employ of the Hudson's Bay Company, about 1865, it was presented to him as the most treasured

of the tribal possessions. It is of a homogeneous, deep-green jade, with slight veins of a darker color. It is 17 in. in length, $1\frac{3}{8}$ in. in greatest depth of body, and 1 in. thick at the center. The blade is quite straight for two-thirds of its length to a slight ridge on the upper surface, from which it curves downward, decreasing gradually in dimension, and terminating in a dull, rounded point. It is hexagonal in cross-section, and a central ridge extends along the lateral sides, gradually decreasing in prominence toward the curved end until lost. The head or cutting edge is convex, and stands vertical when mounted. Such pieces among the Tlingit were hafted through an opening near the end of a short, stout, wooden handle, the head, with two-thirds of the body, projecting in front, and the curved, pointed end in the rear.

Another specimen, of bright-green, translucent jade, hafted through the end of a short, stout, wooden handle (pl. x), was collected at Sitka, Alaska, and is now in the United States National Museum at

PLATE XIII

a. Celt of pale, gray-green jade with yellow-brown mottling. It shows two shallow grooves on one face and one on the other. Used as an adze or a skin-scraper. From Port Clarence, Alaska.

b. Celt of brilliant, translucent, grass-green jade, homogeneous in texture, inserted in the end of a section of bone and used as a skin-scraper. From Point Hope, Alaska.

c. Celt of yellow-green, mottled jade, which in use was inserted in the end of a section of bone and used as an adze. Brought to Nome from the Siberian coast.



Washington. It is similar in form to the one described. The length of the blade is 16 in., and of the handle, $23\frac{3}{4}$ in.

Another war-pick, now in the American Museum of Natural History, New York, was obtained by the writer from a native of the Kake tribe of the Tlingit, at Security bay, Kuiu island, southeastern Alaska. It was found at the head of the bay, on the site of a stockaded fort that was burned in 1869. The entire surface of the implement is decomposed and whitened, showing the light-green of the jade in irregular veins, due probably to the effect of heat. It is similar in shape to the others described, except that there is no projecting ridge on the upper face. Its dimensions are: length, $17\frac{3}{4}$ in.; greatest width of lateral sides, $1\frac{3}{4}$ in.; maximum thickness, $1\frac{1}{4}$ in. It is hexagonal in cross-section, and tapers in width and thickness to the ends. The pick was later hafted through the end of a short, heavy handle of wood, which is carved in animal and crest designs in low relief.

Another specimen, much heavier in proportion, and showing a white surface from decomposition, is also in the American Museum of Natural History. It was procured at or near Sitka, but the exact locality is unknown. It measures $11\frac{1}{2}$ in. in length, $20\frac{5}{8}$ in. in greater breadth of lateral sides, and $1\frac{1}{2}$ in. in maximum thickness, tapering near the ends. The smaller and rear end presents a greater and shorter downward curve.

Still another war-pick, of pale-green jade, from the Tsimshian of British Columbia, is in the Bishop collection of the Metropolitan Museum of Art, New York. It shows a shallow groove on the upper face nearer the rear. The smaller end is somewhat broken, and, possibly on this account, shows less curvature.

A war-pick collected on Graham island, of the Queen Charlotte group, is mentioned and illustrated in a paper by Alexander Mackenzie in the *Transactions of the Royal Society of Canada*, for 1891. It is "of light-green jade," and in shape is referred to one of common stone pictured in

PLATE XIV

- a.* Double-bitted celt of blackish-green mottled jade. It shows three shallow grooves on one face, and may have been used as a warclub. From Hotham inlet, Kotzebue sound, Alaska.
- b.* Hand-hammer or pestle made of a natural oblong bowlder of dark-green jade, veined and mottled in darker colors. It is grooved around nearer one end for a thong to secure it in the sled or boat while traveling. It was brought to Nome from the Siberian coast.





Mackenzie's pl. VIII, which is lashed to the end of a short, wooden handle, as shown in our fig. 4. This style of hafting is different from that of the Tlingit, among whom the stone was wedged in a corresponding hole through the handle.

The Krause brothers procured one of these implements among the Tlingit in 1882; it is in the Natural History Museum of Bremen, Germany.

Two interdependent questions naturally arise in considering these war-picks: Who made them? and whence was the material obtained? From its distribution among the Tsimshian, Haida, and Tlingit, it would seem that at least one of these people was responsible for the origin of this type of weapon, as it was common to all of them; but there is no known deposit of jade on the coast, and no evidence, except for a few

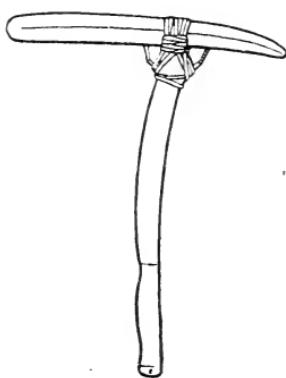


FIG. 4.—War-pick from Graham island (after Mackenzie).

small, stray, cut bowlders, that they worked jade. In fact, from the great value with which these Indians regarded the small adze-blades, and from the scant testimony available, it would seem that jade was procured wholly in trade from the south. In order to fashion jade objects of such length, bowlders of the largest size worked by the Fraser River Salish would have been necessary; yet thus far nothing of this size has been found within their habitat, nor is there any evidence of the necessary working tools. These blades are as long as the longest chisels found among the Fraser River Salish, but no specimen of this particular type has ever been seen on the Fraser among the hundreds of worked or partly worked pieces of various shapes that have been dug up on the oldest occupied sites. For these reasons the question of the origin and manufacture of this class of jade implements remains unanswered.

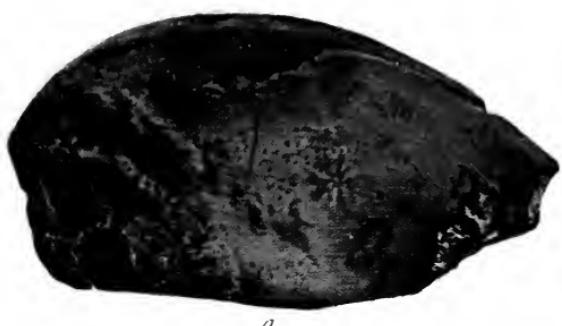
From every evidence we possess, the Tlingit, Tsimshian, and Haida are made up of different elements that have become

PLATE XV

a. Woman's knife of yellow-greenish, black jade, showing perfect moss stains. From the coast of Point Barrow, Alaska.

b. Woman's knife of yellow-green, black-mottled jade. It is slightly concave on one face, and shows a broad, shallow groove the length of the other face, which serves as a finger-grip. It had been traded from the Siberian coast to Nome peninsula.

c. Woman's knife of yellow-green jade, shading to reddish black. From Point Barrow, Alaska.



a



b



c

amalgamated through migration and intermarriage, and while a hazy tradition of the coming of a small band of people, supposedly Asiatics, from seaward, who settled about the shores of Dixon entrance in the earliest times, existed in the minds of the oldest Tlingit, yet there is no doubt, if one may judge by the family stories, that the coast was settled from the interior by way of the greater rivers, and it may be that in times much earlier than those of which we have proof or knowledge, these emigrants may have had access to deposits of jade unknown today, and that the interesting pieces referred to may have been carried coastwise by them.

The only ornamentally carved piece of jade the writer ever saw or heard of along the Northwest coast or in the interior, was procured from a Tlingit in southeastern Alaska, and was worn suspended about the neck as a scratcher. In shape and size it represents a canine tooth of the brown bear.

ESKIMO USE OF JADE

Source.—The discovery of the so-called Jade mountains in Alaska by Lieutenant

Stoney, before referred to, solved the problem of the origin of the abundance of nephrite implements scattered along Bering sea and the Arctic shores. This isolated range, some thirty miles in extent, well above the Arctic circle, between the Kowak and Noatak rivers, 130 miles inland from Kotzebue sound, is partly described by Assistant Engineer S. B. McLenegan⁴ in the following terms:

On the eastern end of the range there are cliffs of serpentine rock. Among the river natives were found two or three axes of this material. Near the western end we found quantities of a light-green rock. This is very hard and compact, and bears no resemblance to the serpentine formation. The stone is possibly an imperfect nephrite. The latter is never found in quantities, generally in 'pockets' only—although nothing of the kind came under our observation. Nephrite was undoubtedly obtained in these mountains. The exact place, however, is unknown to the present generation of natives. It appears that these mountains have never been visited by the natives. There are many superstitions connected with them.

The fear that must have been inherited through generations might indicate that

PLATE XVI

- a.* Man's small knife consisting of a slender blade of pale-green jade, set in the end of a horn handle, which is grooved to fit the fingers and with holes on the end for a lanyard to secure it to the belt or to hang it when not in use. From the Cape Nome coast, Alaska.
- b.* Man's hunting knife, a fine leaf-shape blade of translucent gray-green jade. It is sharpened along the more curved edge. The tang indicates that it was set into a handle like *c.* From Kotzebue sound, Alaska.
- c.* Man's hunting knife complete. The blade, of dull-green jade, is set in a handle of caribou-horn seized at the opening with walrus-hide. From an old village-site on the Bering coast of Seward peninsula.



c



b



a

the Eskimo had never reached the mountains, but, like the southern natives, had procured all the mineral that they required from float and boulders in the river-beds, as those who have ascended these rivers speak of the abundance of greenstone in sight. We know very little as to the method of working jade by these northern people. Murdoch⁵ states that jade was sawed with thin bone saws, sand and water. Nelson⁶ observed that nephrite and other hard stones were fashioned by the Eskimo by grinding into shape with other stones. Stefánsson⁷ says:

Among Noatagmiut (and most other tribes?) greenstone *kuiñirk* bowls were drilled with flint. . . . Attoktuak (of Point Barrow) says jade was cut into long strips with a sharp cottonwood stick the edge of which was occasionally dipped in water and then in dry sand. Noatak people say they never saw or heard of this method. Thin slabs of flint were used, the edge dipped now and then in water and then in dry sand. Slabs of jade were smoothed by rubbing on a flat stone (sandstone) covered with sand. This smoothing practised inland and at Barrow, many of all tribes still living who saw jade worked.

Uses.—The Eskimo used jade for a much greater variety of implements than did the Salish and the tribes of the southern coast, and they showed much more individuality in the different forms of the same type of object. Their most valued personal ornament, the man's labret, was often made of jade.

Celts and Adzes.—The adze, the principal edged tool for wood, bone, and ivory working, was in two forms, as illustrated in pl. XI-XIII. The larger blade was hafted directly by means of a rawhide lashing to a short, bent bone, horn, or wooden handle; the smaller one was inserted in the end of a short section of caribou-horn, which was fitted to and seized in like manner to a similar handle. The lashings were put on wet, and the handles were expanded at the lower end or drilled in one or several holes, over or through which the seizing passed. An adze in the writer's possession is secured to the handle with a whalebone seizing. In some instances the handle was ornamentally etched.

Hammers.—Hammers, which were more



PLATE XVII

Skin-scraper of the type used by the Eskimo of Bering sea from Bristol bay to the head of Norton sound. It consists of a blade of light-green jade shading to black, fitted and lashed to a bent-wood handle with a narrow strip of walrus-hide. From Nome peninsula, Alaska.





often of pectolite, used as bone-breakers or whenever a maul was required, were crude affairs, consisting generally of natural, elliptical boulders, or of pieces of convenient size, pecked into shape, and flattened at the end (pl. xiv). They were hafted in the same manner as the adzes.

Knives.—Knives, for which no substitute equal to jade could be found in primitive times, were very different for the sexes among the Eskimo. The *ülu*, or woman's knife (pl. xv), was quite uniform in shape, consisting of a thin, crescentic blade, ground down to a keen edge along the curved portion. Some were inserted in the groove of a handle of ivory, bone, or wood, which was often ornamentally carved; others were smoothed along the upper straight edge, which was generally expanded, and in some instances a groove on one or both sides was provided, seemingly for the purpose of giving the hand a better hold of the blade. This tool was the constant companion of the woman, and was used for every possible purpose, from splitting fish to cutting a thread.

The man's knife, as a weapon of war and for hunting purposes, was generally of flint or slate (pl. xvi). It consisted of a short blade set in a wooden or a bone handle, but when of nephrite the length of blade was usually much greater, reaching eight inches. Of war knives, possibly the finest specimen, now in the National Museum, was collected by Nelson in Norton sound. It is a leaf-shaped blade, $8\frac{1}{3}$ in. long by $2\frac{1}{4}$ in. wide, and is made of a beautiful, bright, translucent, green jade, slightly grooved near each edge, and strengthened by an increase in the thickness down the middle. It is pegged to a short ivory handle, and as it has a double edge, it was more of a weapon than a hunting knife.

The two hunting knives in the writer's possession are interesting examples. The larger one (pl. xvi, b) is of a beautiful, gray-green, translucent jade, $7\frac{1}{2}$ in. long and $2\frac{1}{8}$ in. wide, with a slightly raised strengthening ridge extending down the middle of each side. It is broad, leaf-



PLATE XVIII

a. Skin-scraper of the type used by the Eskimo of northern Alaska. It consists of a blade of green jade set in the end of a handle of extinct mammoth ivory. The hand-piece is grooved on the top and one side for the first two fingers and the thumb. From the Arctic shore near Point Beecher, Alaska.

b. The other side of the same scraper.

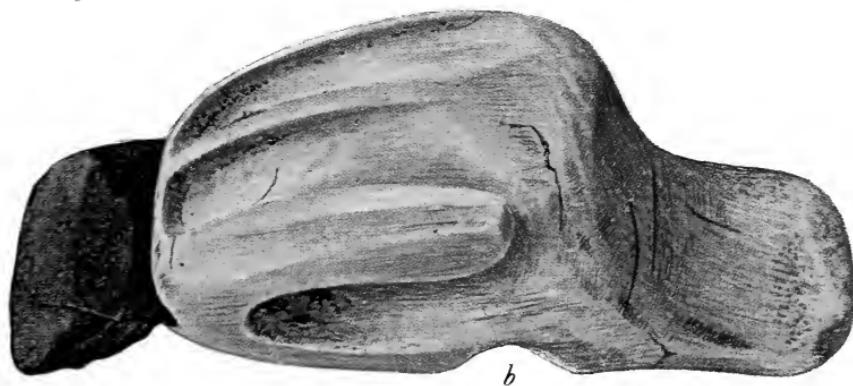
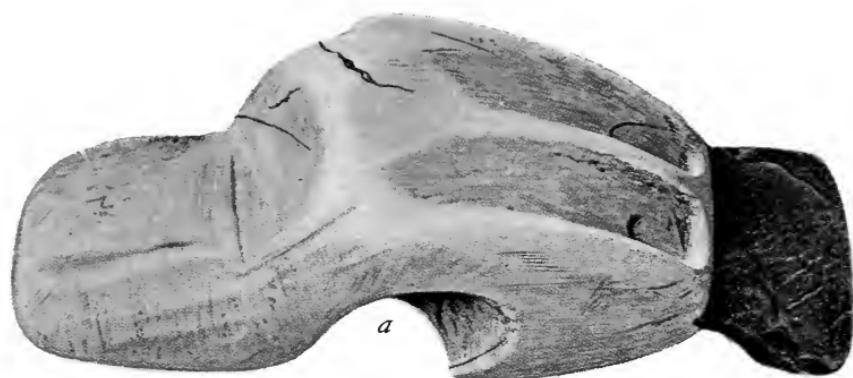
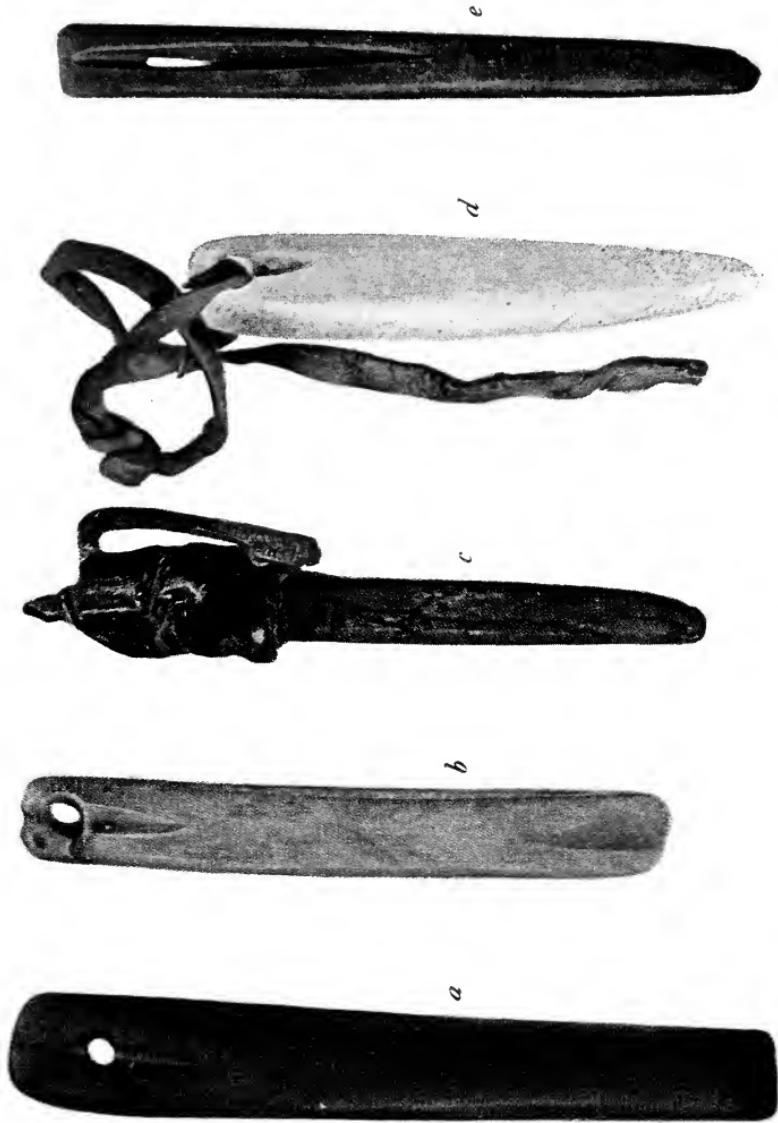


PLATE XIX

- a. Whetstone of homogeneous, deep olive-green jade, oval in cross-section. From Hotham inlet, Kotzebue sound, Alaska.
- b. Whetstone of pale-green jade, flattened in cross-section and slightly curved in its length. From Kotzebue sound, Alaska.
- c. Whetstone of dark olive-green jade, rounded in cross-section and showing a shallow groove in its length. The upper end is secured and covered with seal-skin, and a thong is provided to fasten it to the belt. From the Bering coast of the Nome peninsula, north of Cape Nome, Alaska.
- d. Whetstone of milky pectolite, four-sided, but rounded in cross-section. Through the hole in the end a seal-skin thong is spliced for attachment to the belt.
- e. Whetstone of a blue-gray jade, finished throughout, deeply grooved, and pierced with a long eye at the upper end. From the coast of Seward peninsula, Alaska.



shaped, with a rounded cutting edge on one side. This was primarily a skinning and hunting knife, and, judging by the two-inch tang at the upper end, it evidently was once secured to a handle.

The other knife (pl. XVI, c) is interesting from the fact that it is provided with the original handle. The blade, of inferior jade, $5\frac{3}{4}$ in. long, is rounded to a dull point, with a single cutting edge. The inch tang is clearly cut, and fits in the end of a short, tapering, horn handle, wrapped around with hide at the lower end. Such knives were carried in wooden sheaths attached to the belt.

Skin-dressing Tools.—As furs and skins constituted the most important articles in the economic life of the Eskimo, their clothing, tents, boats, dog-harness, and portions of their hunting and fishing equipment all coming from reindeer, seal, walrus, bear, and the smaller fur-bearing mammals, skin-dressing tools were indispensable. Most abundant were the scrapers for removing the fat and adhering bits of flesh. While slate and chipped-flint blades were

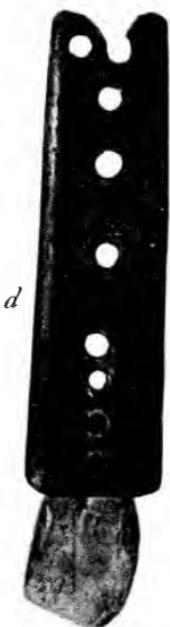
more commonly employed for this purpose, jade also was used. From Bristol bay northward to the head of Norton sound, the scraper consisted of a short stone blade fitted to or set on the end of a bent-wood or bone handle, and seized with rawhide (pl. xvii). Among the Arctic Eskimo north of Bering strait the stone blade was inserted in a short handle of ivory, bone, or wood, which was made to conform to the inside of the hand with hollowed-out grooves in which the fingers and thumb fitted exactly (pl. xviii).

Whetstones.—For giving a keen edge to the knife, whetstones, usually of jade, were carried by means of a lanyard or a strip of sealskin, suspended from the belt, but smaller ones were often attached to the primitive needle-case (pl. xix). An examination of any of the whetstones will show cross-cuts or lines from use. These tools vary in length from two to nine inches, and in cross-section, while approaching the cylindrical, they are often oval or flattened. The upper end is generally chamfered for convenience in drilling the eye, through



PLATE XX

- a.* Chisel consisting of fine, homogeneous, gray-green jade, set in the end of a long handle of bone and wood lashed together with hide. From St Michaels, Alaska.
- b.* Hand chisel of homogeneous, dark-green jade, square in cross-section, with a long, tapering edge. Broken, but scarfed with pieces of wood and a seal-skin lashing. The chisel shows three shallow longitudinal grooves. From Kotzebue sound, Alaska.
- c.* Chisel or graving tool with a blade of translucent, grass-green jade, slightly oval in cross-section and brought to a rounded point; set in the end of a handle of walrus ivory. From Seward peninsula, Alaska.
- d.* Chisel consisting of a thin, flat blade of bright-green jade inserted in the end of a handle of caribou-horn ornamented with a line of round holes. From Cape Nome, Alaska.



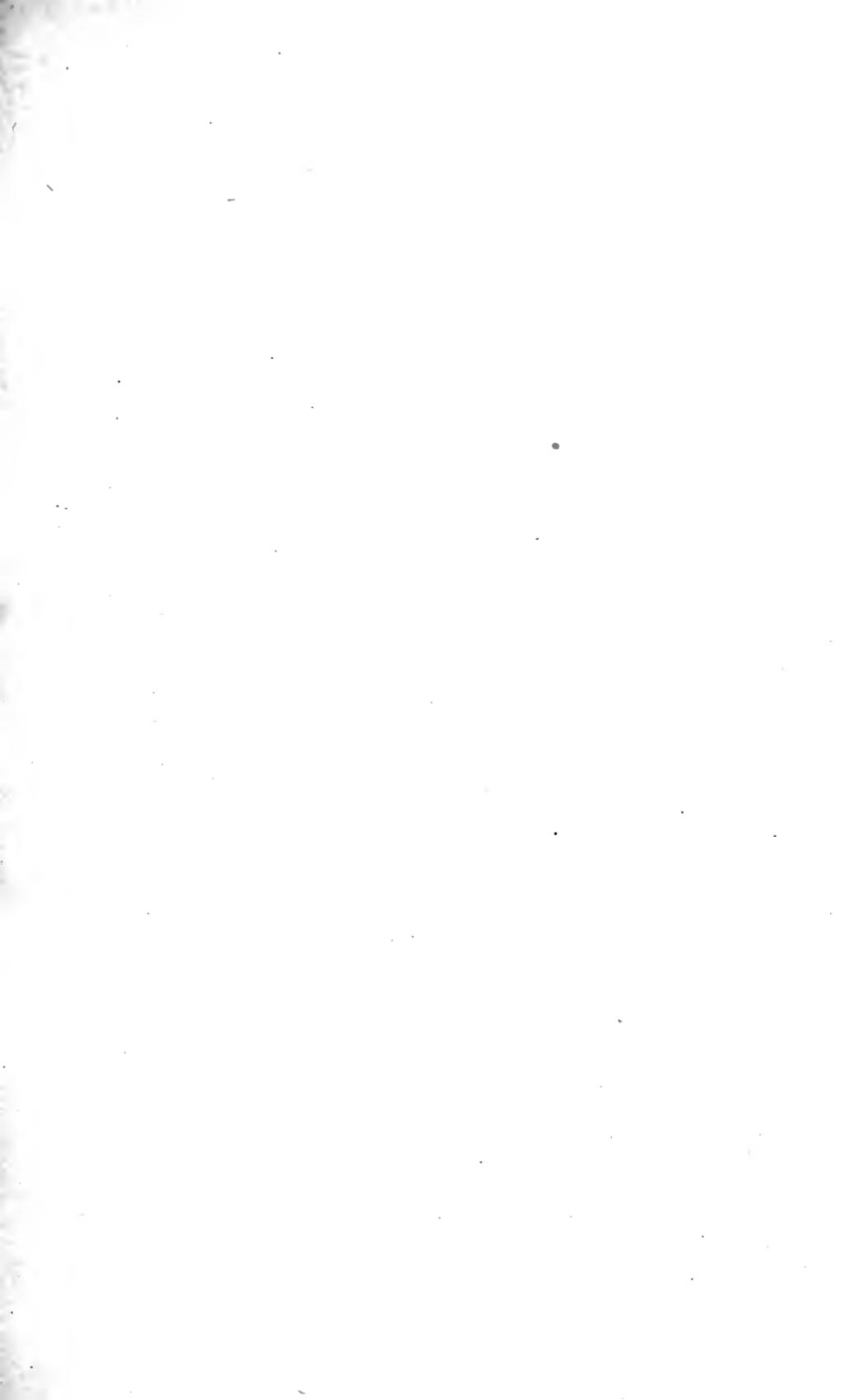
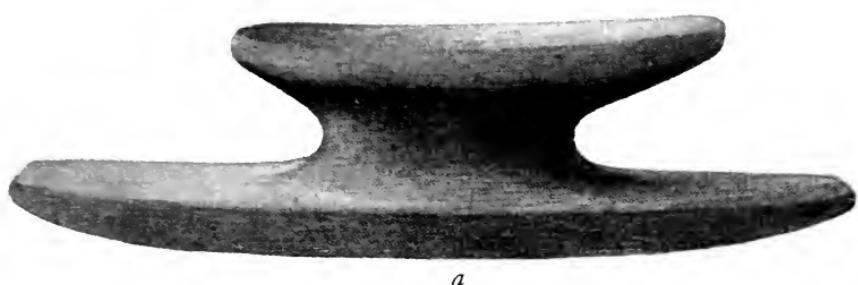


PLATE XXI

Two views of a labret of homogeneous, olive jade, ornamented with a narrow groove (*b*) cut along the outer face, and beveled at the ends. The button (*a*) has a longer and a shorter arm for insertion. Rare and finely fashioned.



a



b

which the lanyard is rove, to attach it to the belt or the needle-case. The drilling of the eye must have been a delicate and laborious operation, and to facilitate it a deep, longitudinal groove was worked in one or both sides, thus reducing the thickness of the wall to be drilled. In some cases the eye was drilled partly through from each side to meet in the middle. Instead of thus piercing the stone for a thong, the rough end was sometimes tightly covered with seal-skin, with a thong attached. The lower end was rounded, pointed, or flattened, as most convenient.

Chisels.—For working in wood, ivory, and bone, chisels were next in importance to adzes. These consisted of short, narrow blades of jade, usually set in the end of a handle of bone or ivory. Pl. xx shows several forms of hafted chisels. Of these, *a*, an unusually fine specimen, is provided with a blade of homogeneous gray-bluish-green jade, free from flaw, inserted in the end of a section of caribou horn, which is fitted and seized with hide to a handle of wood. The hole in one side of the handle

would suggest that it was originally used for some other purpose. Fig. *c* is an equally fine specimen, possibly more of a graving tool, judging by its rounding point, which consists of a translucent grass-green jade, oval in cross-section, set in the end of a short handle of walrus ivory, which tapers at both ends. It came from the seacoast of Seward peninsular, Alaska. Fig. *d* is of the more common type of chisel. The flat blade is inserted in the end of a caribou-horn handle ornamented longitudinally with a series of holes. It is from Cape Nome. Fig. *b* exhibits a remarkable specimen that is not mounted; it is square in cross-section, with a long bevel on four sides. This chisel is doubly interesting in that it shows the ingenuity of the Eskimo in the neat piece of work in scarfing with two pieces of wood, and a rawhide lashing to bind the parts together where broken.

Drills.—Drills were important tools, and were made of bone, flint, and jade; when of jade they were generally of the finest quality. So far as known, the point was always triangular, and was inserted

PLATE XXII

a. Spearhead used in the capture of whale, walrus, and seal, consisting of a blade of jade fitted between the jaws of a bone head and secured by means of two bone pegs. The blade, of light-green flecked with white and yellow markings, is of leaf-shape and well fashioned. The central portion of each side is slightly concave to fit the bone jaws, and both edges are beveled to a sharp point throughout their length. From Kotzebue sound, Alaska.

b. Unique, finely shaped arrow-barb of mottled green jade, which in use was fitted in the end of a wooden shaft. It seems remarkable that so much labor should have been expended in working this barb from jade, when bone or ivory would have been equally efficient. From Point Barrow, Alaska.

c. Spearhead of bright, translucent, grass-green jade. It was found worn suspended from the neck of a man living on the shore of Bristol bay, Alaska, who regarded it as having certain magical power as a charm.



c



a



b



PLATE XXIII

Spoon-shape implement of bright-green, splotched and veined jade. Dug up on an old village-site on the Arctic coast, near Cape Prince of Wales, Alaska. Use unknown.





in the larger end of a slightly tapering, rounded, wooden rod, which was revolved back and forth with the bow-drill, or string of hide and toggles.

Labrets.—Possibly the rarest and most highly valued articles of jade were the labrets worn by Eskimo men, which in some cases have been transmitted from generation to generation, or dug from sites of old habitations. The one here shown (pl. xxi), procured in 1880 in Hotham inlet, is of an olive shade, of fine, homogeneous texture, beautifully fashioned, and remarkable for a narrow groove cut along three-quarters of the length of the outer face for ornamentation. It is quadrangular, with two rounded sides, and is beveled at the ends. The button, which passed through the lip and rested against the gums, has a longer and a shorter arm for insertion and to hold the labret securely in place. The making of such delicate objects of so hard and brittle a material as jade, with sandstone, flint, and grit, which were the only means at the disposal of their makers, is an object lesson to the skilled workers

of today, possessed with every modern appliance.

Lesser Implements.—The smaller articles of jade, such as harpoon, spear, and arrow blades and barbs (pl. xxii), are noteworthy products of native patience and art, especially when it is remembered that they were fashioned with primitive tools before the introduction of iron or steel. Three remarkable spoon-shape objects, one of which is shown in pl. xxiii, were dug up on a prehistoric living-site on the coast of Bering sea, near Cape Prince of Wales, Alaska. Their use is unknown, and the natives could give no information regarding them.

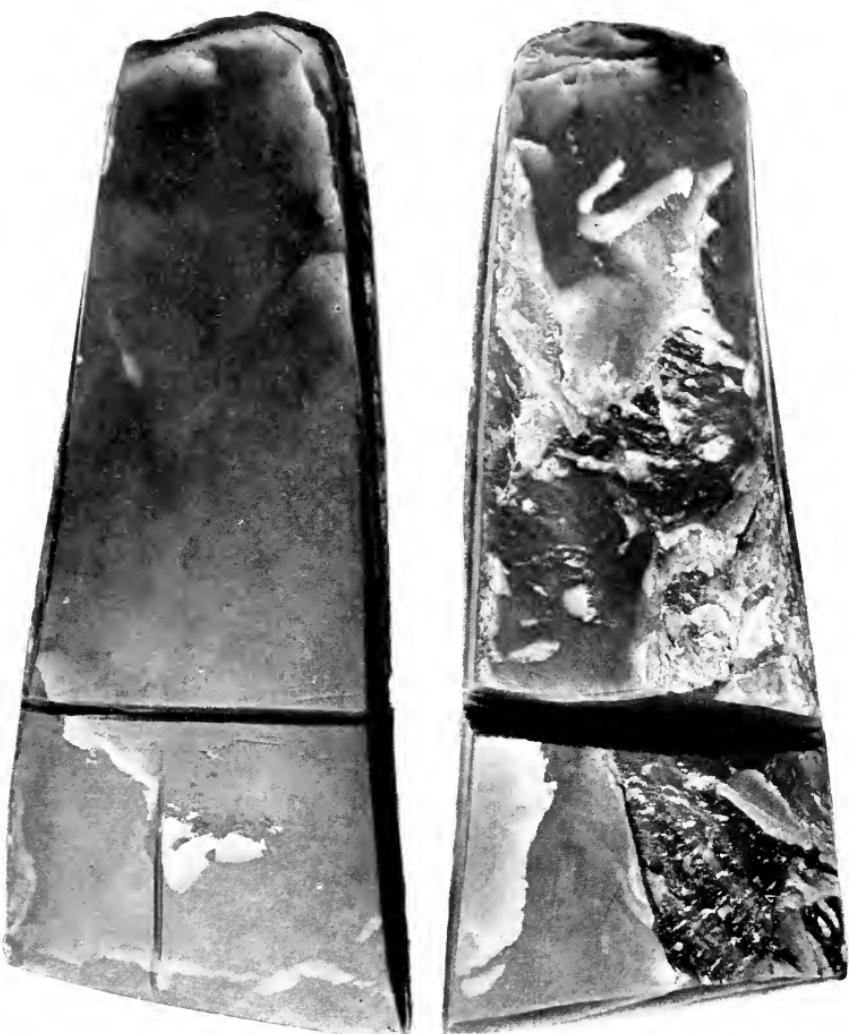
PLATE XXIV

Two views of a skin scraper of the type used by the Eskimo of northern Alaska. It consists of a celt of dark-green jade set in a handle of wood.



PLATE XXV

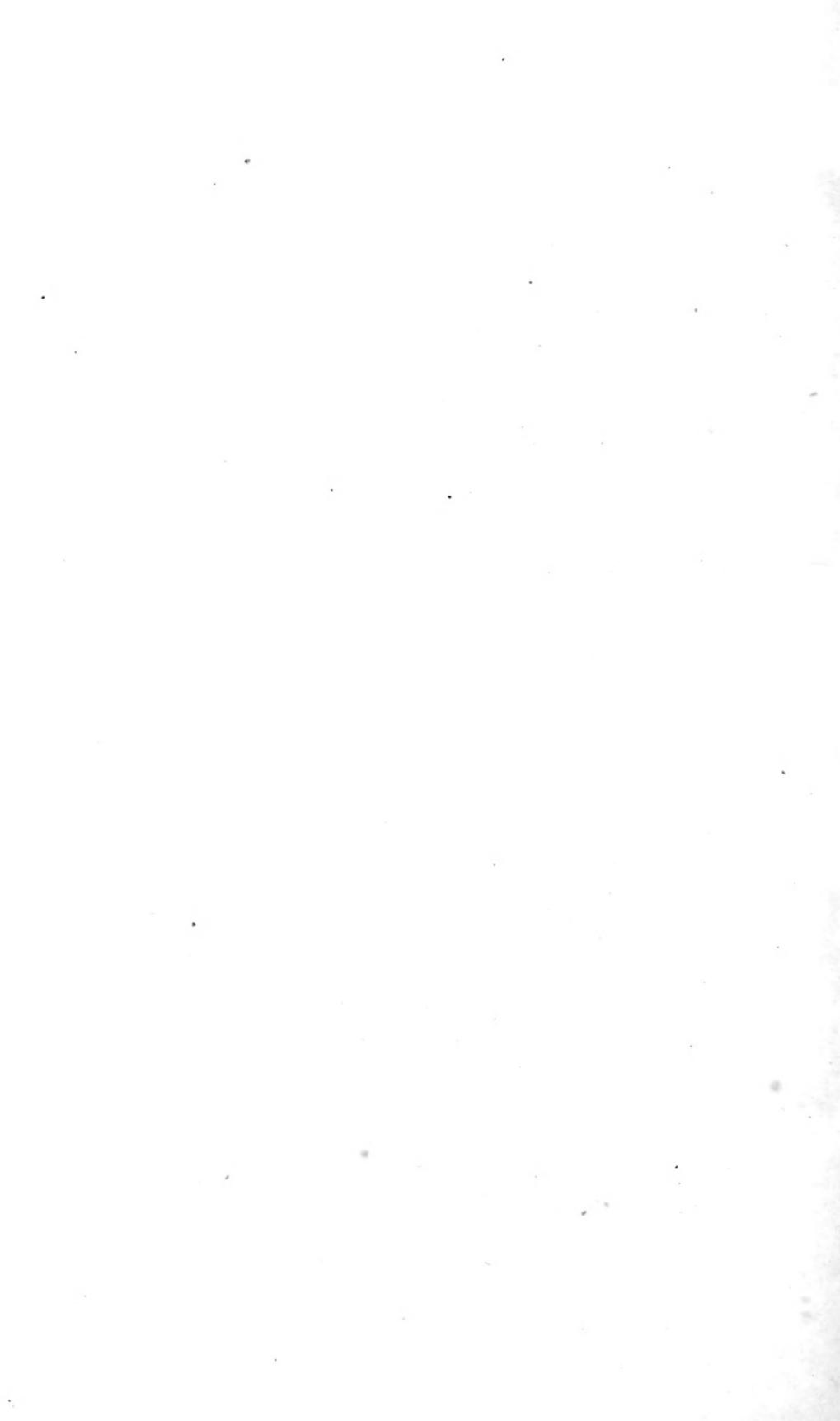
Two views of a jade celt, showing secondary cutting.
From Fraser river, British Columbia.





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